

 **ANALYTICAL REPORT****PREPARED FOR**

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JOB DESCRIPTION

RVAAP FWGW

JOB NUMBER

280-191579-1

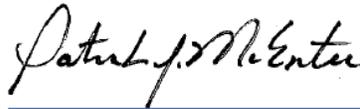
Eurofins Denver

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

Authorization



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Table of Contents

Cover Title Page	1
Data Summaries	5
Definitions	5
Case Narrative	6
Detection Summary	7
Client Sample Results	8
Default Detection Limits	9
Surrogate Summary	10
QC Sample Results	11
QC Association	13
Chronicle	14
Certification Summary	15
Method Summary	16
Sample Summary	17
Manual Integration Summary	18
Reagent Traceability	23
COAs	28
Organic Sample Data	160
HPLC/IC	160
8330B_DOD5	160
8330B_DOD5 QC Summary	161
8330B_DOD5 Sample Data	165
Standards Data	171
8330B_DOD5 ICAL Data	171
8330B_DOD5 CCAL Data	267
Raw QC Data	287

Table of Contents

8330B_DOD5 Blank Data	287
8330B_DOD5 LCS/LCSD Data	292
8330B_DOD5 Run Logs	302
8330B_DOD5 Prep Data	304
Shipping and Receiving Documents	306
Client Chain of Custody	307
Sample Receipt Checklist	308

Definitions/Glossary

Client: Leidos, Inc.
Project/Site: RVAAP FWGW

Job ID: 280-191579-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

**Job Narrative
280-191579-1**

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Receipt

The sample was received on 5/15/2024 9:05 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.9°C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

Method 8330B - Nitroaromatics and Nitramines (HPLC)

Sample LL1mw-082-240401-GW (280-191579-1) was analyzed for Nitroaromatics and Nitramines (HPLC). The sample was prepared on 5/17/2024 and analyzed on 5/19/2024.

In preparation batch 280-653807, the following sample required filtration to reduce matrix interferences: LL1mw-082-240401-GW (280-191579-1). Method 3535/8330B_DOD5.

Detection Summary

Client: Leidos, Inc.
Project/Site: RVAAP FWGW

Job ID: 280-191579-1

Client Sample ID: LL1mw-082-240401-GW

Lab Sample ID: 280-191579-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Leidos, Inc.
Project/Site: RVAAP FWGW

Job ID: 280-191579-1

Method: EPA 8330B - Nitroaromatics and Nitramines (HPLC)

Client Sample ID: LL1mw-082-240401-GW

Lab Sample ID: 280-191579-1

Date Collected: 05/14/24 08:35

Matrix: Water

Date Received: 05/15/24 09:05

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.22	U	0.23	0.22	0.093	ug/L		05/19/24 04:51	1
1,3-Dinitrobenzene	0.11	U	0.12	0.11	0.041	ug/L		05/19/24 04:51	1
2,4,6-Trinitrotoluene	0.11	U	0.12	0.11	0.050	ug/L		05/19/24 04:51	1
2,4-Dinitrotoluene	0.088	U	0.11	0.088	0.030	ug/L		05/19/24 04:51	1
2,6-Dinitrotoluene	0.088	U	0.11	0.088	0.044	ug/L		05/19/24 04:51	1
2-Amino-4,6-dinitrotoluene	0.11	U	0.12	0.11	0.056	ug/L		05/19/24 04:51	1
2-Nitrotoluene	0.22	U	0.23	0.22	0.094	ug/L		05/19/24 04:51	1
3-Nitrotoluene	0.39	U	0.44	0.39	0.22	ug/L		05/19/24 04:51	1
4-Amino-2,6-dinitrotoluene	0.13	U	0.17	0.13	0.064	ug/L		05/19/24 04:51	1
4-Nitrotoluene	0.44	U	0.45	0.44	0.11	ug/L		05/19/24 04:51	1
HMX	0.22	U M	0.23	0.22	0.097	ug/L		05/19/24 04:51	1
Nitrobenzene	0.22	U	0.23	0.22	0.10	ug/L		05/19/24 04:51	1
Nitroglycerin	2.2	U	2.3	2.2	1.0	ug/L		05/19/24 04:51	1
PETN	1.1	U	1.2	1.1	0.49	ug/L		05/19/24 04:51	1
RDX	0.22	U	0.23	0.22	0.057	ug/L		05/19/24 04:51	1
Tetryl	0.11	U	0.12	0.11	0.035	ug/L		05/19/24 04:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dinitrobenzene	104	M	83 - 119	05/17/24 13:10	05/19/24 04:51	1

Default Detection Limits

Client: Leidos, Inc.
Project/Site: RVAAP FWGW

Job ID: 280-191579-1

Method: 8330B - Nitroaromatics and Nitramines (HPLC)

Prep: 3535

Analyte	LOQ	DL	Units
1,3,5-Trinitrobenzene	0.21	0.084	ug/L
1,3-Dinitrobenzene	0.11	0.037	ug/L
2,4,6-Trinitrotoluene	0.11	0.045	ug/L
2,4-Dinitrotoluene	0.10	0.027	ug/L
2,6-Dinitrotoluene	0.10	0.040	ug/L
2-Amino-4,6-dinitrotoluene	0.11	0.051	ug/L
2-Nitrotoluene	0.21	0.086	ug/L
3-Nitrotoluene	0.40	0.20	ug/L
4-Amino-2,6-dinitrotoluene	0.15	0.058	ug/L
4-Nitrotoluene	0.41	0.10	ug/L
HMX	0.21	0.088	ug/L
Nitrobenzene	0.21	0.091	ug/L
Nitroglycerin	2.1	0.92	ug/L
PETN	1.1	0.45	ug/L
RDX	0.21	0.052	ug/L
Tetryl	0.11	0.032	ug/L

Surrogate Summary

Client: Leidos, Inc.
Project/Site: RVAAP FWGW

Job ID: 280-191579-1

Method: 8330B - Nitroaromatics and Nitramines (HPLC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	12DNB1 (83-119)
280-191579-1	LL1mw-082-240401-GW	104 M
LCS 280-653807/2-A	Lab Control Sample	98
LCSD 280-653807/22-A	Lab Control Sample Dup	98
MB 280-653807/1-A	Method Blank	95

Surrogate Legend

12DNB = 1,2-Dinitrobenzene

QC Sample Results

Client: Leidos, Inc.
Project/Site: RVAAP FWGW

Job ID: 280-191579-1

Method: 8330B - Nitroaromatics and Nitramines (HPLC)

Lab Sample ID: MB 280-653807/1-A

Matrix: Water

Analysis Batch: 653946

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 653807

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
1,3,5-Trinitrobenzene	0.20	U	0.21	0.20	0.084	ug/L		05/19/24 01:24	1
1,3-Dinitrobenzene	0.10	U	0.11	0.10	0.037	ug/L		05/19/24 01:24	1
2,4,6-Trinitrotoluene	0.10	U	0.11	0.10	0.045	ug/L		05/19/24 01:24	1
2,4-Dinitrotoluene	0.080	U	0.10	0.080	0.027	ug/L		05/19/24 01:24	1
2,6-Dinitrotoluene	0.080	U	0.10	0.080	0.040	ug/L		05/19/24 01:24	1
2-Amino-4,6-dinitrotoluene	0.10	U	0.11	0.10	0.051	ug/L		05/19/24 01:24	1
2-Nitrotoluene	0.20	U	0.21	0.20	0.086	ug/L		05/19/24 01:24	1
3-Nitrotoluene	0.35	U	0.40	0.35	0.20	ug/L		05/19/24 01:24	1
4-Amino-2,6-dinitrotoluene	0.12	U	0.15	0.12	0.058	ug/L		05/19/24 01:24	1
4-Nitrotoluene	0.40	U	0.41	0.40	0.10	ug/L		05/19/24 01:24	1
HMX	0.20	U	0.21	0.20	0.088	ug/L		05/19/24 01:24	1
Nitrobenzene	0.20	U	0.21	0.20	0.091	ug/L		05/19/24 01:24	1
Nitroglycerin	2.0	U	2.1	2.0	0.92	ug/L		05/19/24 01:24	1
PETN	1.0	U	1.1	1.0	0.45	ug/L		05/19/24 01:24	1
RDX	0.20	U	0.21	0.20	0.052	ug/L		05/19/24 01:24	1
Tetryl	0.10	U	0.11	0.10	0.032	ug/L		05/19/24 01:24	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dinitrobenzene	95		83 - 119	05/17/24 13:10	05/19/24 01:24	1

Lab Sample ID: LCS 280-653807/2-A

Matrix: Water

Analysis Batch: 653946

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 653807

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec	Limits
		Result	Qualifier					
1,3,5-Trinitrobenzene	2.00	2.07		ug/L		104		73 - 125
1,3-Dinitrobenzene	2.00	1.93		ug/L		97		78 - 120
2,4,6-Trinitrotoluene	2.00	1.88		ug/L		94		71 - 123
2,4-Dinitrotoluene	2.00	1.88		ug/L		94		78 - 120
2,6-Dinitrotoluene	2.00	1.88		ug/L		94		77 - 127
2-Amino-4,6-dinitrotoluene	2.00	1.91		ug/L		96		79 - 120
2-Nitrotoluene	2.00	1.52		ug/L		76		70 - 127
3-Nitrotoluene	2.00	1.51		ug/L		75		73 - 125
4-Amino-2,6-dinitrotoluene	2.00	1.96		ug/L		98		76 - 125
4-Nitrotoluene	2.00	1.49		ug/L		74		71 - 127
HMX	2.00	1.70	M	ug/L		85		65 - 135
Nitrobenzene	2.00	1.74		ug/L		87		65 - 134
Nitroglycerin	20.0	19.8		ug/L		99		74 - 127
PETN	20.0	20.9		ug/L		104		73 - 127
RDX	2.00	1.86		ug/L		93		68 - 130
Tetryl	2.00	1.91		ug/L		96		64 - 128

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dinitrobenzene	98		83 - 119

QC Sample Results

Client: Leidos, Inc.
Project/Site: RVAAP FWGW

Job ID: 280-191579-1

Method: 8330B - Nitroaromatics and Nitramines (HPLC) (Continued)

Lab Sample ID: LCSD 280-653807/22-A
Matrix: Water
Analysis Batch: 653946

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 653807

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
1,3,5-Trinitrobenzene	2.00	2.08		ug/L		104	73 - 125	0	20	
1,3-Dinitrobenzene	2.00	1.92		ug/L		96	78 - 120	0	20	
2,4,6-Trinitrotoluene	2.00	1.90		ug/L		95	71 - 123	1	20	
2,4-Dinitrotoluene	2.00	1.83		ug/L		91	78 - 120	3	20	
2,6-Dinitrotoluene	2.00	1.86		ug/L		93	77 - 127	1	20	
2-Amino-4,6-dinitrotoluene	2.00	1.86		ug/L		93	79 - 120	2	20	
2-Nitrotoluene	2.00	1.48		ug/L		74	70 - 127	3	20	
3-Nitrotoluene	2.00	1.47		ug/L		73	73 - 125	3	20	
4-Amino-2,6-dinitrotoluene	2.00	1.90		ug/L		95	76 - 125	3	20	
4-Nitrotoluene	2.00	1.45		ug/L		73	71 - 127	2	20	
HMX	2.00	1.75	M	ug/L		87	65 - 135	3	20	
Nitrobenzene	2.00	1.69		ug/L		85	65 - 134	3	20	
Nitroglycerin	20.0	20.1		ug/L		101	74 - 127	2	20	
PETN	20.0	21.3		ug/L		107	73 - 127	2	20	
RDX	2.00	1.89		ug/L		94	68 - 130	1	20	
Tetryl	2.00	1.95		ug/L		97	64 - 128	2	20	
Surrogate		LCSD %Recovery	LCSD Qualifier				Limits			
1,2-Dinitrobenzene		98					83 - 119			

QC Association Summary

Client: Leidos, Inc.
Project/Site: RVAAP FWGW

Job ID: 280-191579-1

HPLC/IC

Prep Batch: 653807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-191579-1	LL1mw-082-240401-GW	Total/NA	Water	3535	
MB 280-653807/1-A	Method Blank	Total/NA	Water	3535	
LCS 280-653807/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 280-653807/22-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 653946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-191579-1	LL1mw-082-240401-GW	Total/NA	Water	8330B	653807
MB 280-653807/1-A	Method Blank	Total/NA	Water	8330B	653807
LCS 280-653807/2-A	Lab Control Sample	Total/NA	Water	8330B	653807
LCSD 280-653807/22-A	Lab Control Sample Dup	Total/NA	Water	8330B	653807

Lab Chronicle

Client: Leidos, Inc.
Project/Site: RVAAP FWGW

Job ID: 280-191579-1

Client Sample ID: LL1mw-082-240401-GW

Lab Sample ID: 280-191579-1

Date Collected: 05/14/24 08:35

Matrix: Water

Date Received: 05/15/24 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			452.5 mL	5 mL	653807	05/17/24 13:10	EH	EET DEN
Total/NA	Analysis	8330B		1	1 mL	1 mL	653946	05/19/24 04:51	JZ	EET DEN

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: Leidos, Inc.
Project/Site: RVAAP FWGW

Job ID: 280-191579-1

Laboratory: Eurofins Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-24

Method Summary

Client: Leidos, Inc.
Project/Site: RVAAP FWGW

Job ID: 280-191579-1

Method	Method Description	Protocol	Laboratory
8330B	Nitroaromatics and Nitramines (HPLC)	EPA	EET DEN
3535	Solid-Phase Extraction (SPE)	SW846	EET DEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: Leidos, Inc.
Project/Site: RVAAP FWGW

Job ID: 280-191579-1

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Received</u>
280-191579-1	LL1mw-082-240401-GW	Water	05/14/24 08:35	05/15/24 09:05

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-191579-1

SDG No.: _____

Instrument ID: CHHPLC_X3 Analysis Batch Number: 649950

Lab Sample ID: IC 280-649950/11 Client Sample ID: _____

Date Analyzed: 04/17/24 20:37 Lab File ID: 04170011.D GC Column: UltraCarb5uO ID: 4.6 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
TNX	6.47	Baseline	LV5D	04/18/24 11:13
HMX	6.58	Baseline	LV5D	04/18/24 11:13
DNX	6.78	Baseline	LV5D	04/18/24 11:13

Lab Sample ID: IC 280-649950/12 Client Sample ID: _____

Date Analyzed: 04/17/24 21:00 Lab File ID: 04170012.D GC Column: UltraCarb5uO ID: 4.6 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
TNX	6.47	Baseline	LV5D	04/18/24 11:13
HMX	6.58	Baseline	LV5D	04/18/24 11:13
DNX	6.79	Baseline	LV5D	04/18/24 11:13

Lab Sample ID: IC 280-649950/13 Client Sample ID: _____

Date Analyzed: 04/17/24 21:23 Lab File ID: 04170013.D GC Column: UltraCarb5uO ID: 4.6 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
TNX	6.48	Baseline	LV5D	04/18/24 11:13
HMX	6.58	Baseline	LV5D	04/18/24 11:13
DNX	6.79	Baseline	LV5D	04/18/24 11:13

Lab Sample ID: IC 280-649950/14 Client Sample ID: _____

Date Analyzed: 04/17/24 21:46 Lab File ID: 04170014.D GC Column: UltraCarb5uO ID: 4.6 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
TNX	6.48	Baseline	LV5D	04/18/24 11:14
HMX	6.59	Baseline	LV5D	04/18/24 11:14
DNX	6.79	Baseline	LV5D	04/18/24 11:14

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-191579-1

SDG No.: _____

Instrument ID: CHHPLC_X3 Analysis Batch Number: 649950

Lab Sample ID: IC 280-649950/15 Client Sample ID: _____

Date Analyzed: 04/17/24 22:09 Lab File ID: 04170015.D GC Column: UltraCarb5uO ID: 4.6 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
TNX	6.48	Baseline	LV5D	04/18/24 11:15
HMX	6.58	Baseline	LV5D	04/18/24 11:15
DNX	6.79	Baseline	LV5D	04/18/24 11:15
3-Nitrotoluene	13.40	Baseline	LV5D	04/18/24 11:15

Lab Sample ID: IC 280-649950/16 Client Sample ID: _____

Date Analyzed: 04/17/24 22:32 Lab File ID: 04170016.D GC Column: UltraCarb5uO ID: 4.6 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
TNX	6.48	Baseline	LV5D	04/18/24 11:16
HMX	6.58	Baseline	LV5D	04/18/24 11:16
DNX	6.79	Baseline	LV5D	04/18/24 11:16
PETN	14.48	Baseline	LV5D	04/18/24 11:15

Lab Sample ID: IC 280-649950/17 Client Sample ID: _____

Date Analyzed: 04/17/24 22:55 Lab File ID: 04170017.D GC Column: UltraCarb5uO ID: 4.6 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
TNX	6.48	Baseline	LV5D	04/18/24 11:16
HMX	6.58	Baseline	LV5D	04/18/24 11:16
DNX	6.78	Baseline	LV5D	04/18/24 11:16
PETN	14.49	Baseline	LV5D	04/18/24 11:16

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins DenverJob No.: 280-191579-1

SDG No.: _____

Instrument ID: CHHPLC_X3Analysis Batch Number: 649950Lab Sample ID: IC 280-649950/18

Client Sample ID: _____

Date Analyzed: 04/17/24 23:18Lab File ID: 04170018.DGC Column: UltraCarb5uO ID: 4.6 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DNX	6.79	Baseline	LV5D	04/18/24 11:17
1,2-Dinitrobenzene	8.52	Baseline	LV5D	04/18/24 11:19
1,3,5-Trinitrobenzene	8.66	Baseline	LV5D	04/18/24 11:19
3,5-Dinitroaniline	9.87	Baseline	LV5D	04/18/24 11:17
Tetryl	9.96	Baseline	LV5D	04/18/24 11:17
Nitroglycerin	10.42	Baseline	LV5D	04/18/24 11:17
PETN	14.48	Baseline	LV5D	04/18/24 11:17

Lab Sample ID: IC 280-649950/19

Client Sample ID: _____

Date Analyzed: 04/17/24 23:41Lab File ID: 04170019.DGC Column: UltraCarb5uO ID: 4.6 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
TNX	6.48	Baseline	LV5D	04/18/24 11:18
HMX	6.58	Baseline	LV5D	04/18/24 11:18
DNX	6.79	Baseline	LV5D	04/18/24 11:18
RDX	7.58	Baseline	LV5D	04/18/24 11:18
1,2-Dinitrobenzene	8.52	Baseline	LV5D	04/18/24 11:19
1,3,5-Trinitrobenzene	8.66	Baseline	LV5D	04/18/24 11:19
3,5-Dinitroaniline	9.87	Baseline	LV5D	04/18/24 11:18
Tetryl	9.95	Baseline	LV5D	04/18/24 11:18
Nitroglycerin	10.43	Baseline	LV5D	04/18/24 11:17
PETN	14.49	Baseline	LV5D	04/18/24 11:17

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-191579-1
 SDG No.: _____
 Instrument ID: CHHPLC_X3 Analysis Batch Number: 649950
 Lab Sample ID: ICV 280-649950/20 Client Sample ID: _____
 Date Analyzed: 04/18/24 00:04 Lab File ID: 04170020.D GC Column: UltraCarb5uO ID: 4.6 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
TNX	6.48	Baseline	LV5D	04/18/24 11:20
HMX	6.58	Baseline	LV5D	04/18/24 11:20
DNX	6.79	Baseline	LV5D	04/18/24 11:20

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-191579-1

SDG No.: _____

Instrument ID: CHHPLC_X3 Analysis Batch Number: 653946

Lab Sample ID: LCS 280-653807/2-A Client Sample ID: _____

Date Analyzed: 05/19/24 01:47 Lab File ID: 05180044.D GC Column: UltraCarb5uO ID: 4.6 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HMX	6.61	Baseline	LV5D	05/21/24 13:28

Lab Sample ID: LCSD 280-653807/22-A Client Sample ID: _____

Date Analyzed: 05/19/24 02:10 Lab File ID: 05180045.D GC Column: UltraCarb5uO ID: 4.6 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HMX	6.62	Baseline	LV5D	05/21/24 13:28

Lab Sample ID: 280-191579-1 Client Sample ID: LL1mw-082-240401-GW

Date Analyzed: 05/19/24 04:51 Lab File ID: 05180052.D GC Column: UltraCarb5uO ID: 4.6 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dinitrobenzene	8.55	Baseline	LV5D	05/21/24 13:40
1,3,5-Trinitrobenzene		Baseline	LV5D	05/21/24 13:40
HMX		Invalid Compound ID	LV5D	05/21/24 13:40

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver

Job No.: 280-191579-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
8330 DMT_00016	06/30/24	01/24/24	Acetonitrile, Lot 233799	5 mL	MNX, TNX, DNX_00092	1 mL	DNX	20.04 ug/mL
							MNX	23.38 ug/mL
							TNX	20.08 ug/mL
.MNX, TNX, DNX_00092	06/30/24		Agilent, Lot 0006744504		(Purchased Reagent)		DNX	100.2 ug/mL
							MNX	116.9 ug/mL
							TNX	100.4 ug/mL
8330 LCS_00134	08/29/24	02/29/24	Acetonitrile, Lot Acetonitrile_00086	100 mL	8330 LCSMix2_00113	1 mL	2,6-Dinitrotoluene	10 ug/mL
							2-Amino-4,6-dinitrotoluene	10 ug/mL
							2-Nitrotoluene	10 ug/mL
							3-Nitrotoluene	10 ug/mL
							4-Amino-2,6-dinitrotoluene	10 ug/mL
							4-Nitrotoluene	10 ug/mL
					8330 NG Stk_00145	1 mL	Nitroglycerin	100 ug/mL
					8330 NG Stk_00147	1 mL	Nitroglycerin	100 ug/mL
					8330 PETN Stk_00152	1 mL	PETN	100 ug/mL
					8330 PETN Stk_00153	1 mL	PETN	100 ug/mL
					8330LCSMix1_00151	1 mL	1,3,5-Trinitrobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							2,4,6-Trinitrotoluene	10 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
		HMX	10 ug/mL					
		Nitrobenzene	10 ug/mL					
		RDX	10 ug/mL					
.8330 LCSMix2_00113	02/28/25		Restek, Lot A199657		(Purchased Reagent)		2,6-Dinitrotoluene	1000 ug/mL
							2-Amino-4,6-dinitrotoluene	1000 ug/mL
							2-Nitrotoluene	1000 ug/mL
							3-Nitrotoluene	1000 ug/mL
							4-Amino-2,6-dinitrotoluene	1000 ug/mL
							4-Nitrotoluene	1000 ug/mL
							Tetryl	1000 ug/mL
.8330 NG Stk_00145	02/28/25		Restek, Lot A0201048		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330 NG Stk_00147	02/28/25		Restek, Lot A0201048		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330 PETN Stk_00152	02/28/25		Restek, Lot A0198972		(Purchased Reagent)		PETN	5000 ug/mL
.8330 PETN Stk_00153	02/28/25		Restek, Lot A0198972		(Purchased Reagent)		PETN	5000 ug/mL
.8330LCSMix1_00151	02/28/25		Restek, Lot A196548		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							2,4,6-Trinitrotoluene	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							HMX	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							RDX	1000 ug/mL
8330 LCS_00135	10/26/24	04/26/24	Acetonitrile, Lot Acetonitrile_00086	100 mL	3,5-DNA Stock_00052	1 mL	3,5-Dinitroaniline	10 ug/mL
					8330 LCSMix2_00114	1 mL	2,6-Dinitrotoluene	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver

Job No.: 280-191579-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Amino-4,6-dinitrotoluene	10 ug/mL
							2-Nitrotoluene	10 ug/mL
							3-Nitrotoluene	10 ug/mL
							4-Amino-2,6-dinitrotoluene	10 ug/mL
							4-Nitrotoluene	10 ug/mL
							Tetryl	10 ug/mL
					8330_NG_Stk_00148	1 mL	Nitroglycerin	100 ug/mL
					8330_NG_Stk_00150	1 mL	Nitroglycerin	100 ug/mL
					8330_PETN_Stk_00154	1 mL	PETN	100 ug/mL
					8330_PETN_Stk_00156	1 mL	PETN	100 ug/mL
					8330LCSMix1_00152	1 mL	1,3,5-Trinitrobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							2,4,6-Trinitrotoluene	10 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							HMX	10 ug/mL
							Nitrobenzene	10 ug/mL
							RDX	10 ug/mL
					PicricARestek_00124	1 mL	2,4,6-Trinitrophenol	10 ug/mL
							Ammonium Picrate	10.74 ug/mL
.3,5-DNA Stock 00052	04/26/25		Restek, Lot A0193965		(Purchased Reagent)		3,5-Dinitroaniline	1000 ug/mL
.8330 LCSMix2_00114	04/26/25		Restek, Lot A199657		(Purchased Reagent)		2,6-Dinitrotoluene	1000 ug/mL
							2-Amino-4,6-dinitrotoluene	1000 ug/mL
							2-Nitrotoluene	1000 ug/mL
							3-Nitrotoluene	1000 ug/mL
							4-Amino-2,6-dinitrotoluene	1000 ug/mL
							4-Nitrotoluene	1000 ug/mL
							Tetryl	1000 ug/mL
.8330 NG Stk 00148	04/26/25		Restek, Lot A0203257		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330 NG Stk 00150	04/26/25		Restek, Lot A0203257		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330 PETN Stk 00154	04/26/25		Restek, Lot A0198972		(Purchased Reagent)		PETN	5000 ug/mL
.8330 PETN Stk 00156	04/26/25		Restek, Lot A0205209		(Purchased Reagent)		PETN	5000 ug/mL
.8330LCSMix1_00152	04/26/25		Restek, Lot A196548		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							2,4,6-Trinitrotoluene	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							HMX	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							RDX	1000 ug/mL
.PicricARestek_00124	04/26/25		Restek, Lot A0195778		(Purchased Reagent)		2,4,6-Trinitrophenol	1000 ug/mL
							Ammonium Picrate	1074 ug/mL
8330IntermStk_00080	05/14/24	04/17/24	Acetonitrile, Lot 223272	10 mL	8330_NG1000_00012	1 mL	Nitroglycerin	100 ug/mL
					8330_PETN1000_00016	1 mL	PETN	100 ug/mL
					833035DNASTk_00059	1 mL	3,5-Dinitroaniline	10 ug/mL
					8330ICALStock_00035	1 mL	1,3,5-Trinitrobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							2,4,6-Trinitrotoluene	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver

Job No.: 280-191579-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dinitrotoluene	10 ug/mL
							2,6-Dinitrotoluene	10 ug/mL
							2-Amino-4,6-dinitrotoluene	10 ug/mL
							2-Nitrotoluene	10 ug/mL
							3-Nitrotoluene	10 ug/mL
							4-Amino-2,6-dinitrotoluene	10 ug/mL
							4-Nitrotoluene	10 ug/mL
							HMX	10 ug/mL
							Nitrobenzene	10 ug/mL
							RDX	10 ug/mL
							Tetryl	10 ug/mL
							1,2-Dinitrobenzene	10 ug/mL
					8330PASTkPS 00075	1 mL	2,4,6-Trinitrophenol	10 ug/mL
.8330 NG1000 00012	04/17/25		Restek, Lot A0197032		(Purchased Reagent)		Nitroglycerin	1000 ug/mL
.8330 PETN1000 00016	04/17/25		Restek, Lot A0198747		(Purchased Reagent)		PETN	1000 ug/mL
.833035DNASTk 00059	05/14/24		Accustandard, Lot 223041214		(Purchased Reagent)		3,5-Dinitroaniline	100 ug/mL
.8330ICALStock_00035	01/23/25	01/23/24	Acetonitrile, Lot 233799	10 mL	8330 Stock_TS_00024	1 mL	1,3,5-Trinitrobenzene	100 ug/mL
							1,3-Dinitrobenzene	100 ug/mL
							2,4,6-Trinitrotoluene	100 ug/mL
							2,4-Dinitrotoluene	100 ug/mL
							2,6-Dinitrotoluene	100 ug/mL
							2-Amino-4,6-dinitrotoluene	100 ug/mL
							2-Nitrotoluene	100 ug/mL
							3-Nitrotoluene	100 ug/mL
							4-Amino-2,6-dinitrotoluene	100 ug/mL
							4-Nitrotoluene	100 ug/mL
							HMX	100 ug/mL
							Nitrobenzene	100 ug/mL
							RDX	100 ug/mL
							Tetryl	100 ug/mL
					8330SurrStock 00173	1 mL	1,2-Dinitrobenzene	100 ug/mL
..8330 Stock_TS_00024	01/23/25		Agilent, Lot 0006684308		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							2,4,6-Trinitrotoluene	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Amino-4,6-dinitrotoluene	1000 ug/mL
							2-Nitrotoluene	1000 ug/mL
							3-Nitrotoluene	1000 ug/mL
							4-Amino-2,6-dinitrotoluene	1000 ug/mL
							4-Nitrotoluene	1000 ug/mL
							HMX	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							RDX	1000 ug/mL
							Tetryl	1000 ug/mL
..8330SurrStock 00173	01/23/25		AccuStandard, Lot 219051500		(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330PASTkPS 00075	04/12/25		AccuStandard, Lot 223041157		(Purchased Reagent)		2,4,6-Trinitrophenol	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver

Job No.: 280-191579-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration	
					Reagent ID	Volume Added			
8330IntermStk_00081	11/14/24	05/14/24	Acetonitrile, Lot 233276	10 mL	8330_NG1000_00014	1 mL	Nitroglycerin	100 ug/mL	
					8330_PETN1000_00017	1 mL	PETN	100 ug/mL	
					8330ICALStock_00035	1 mL	1,3,5-Trinitrobenzene	10 ug/mL	
							1,3-Dinitrobenzene	10 ug/mL	
							2,4,6-Trinitrotoluene	10 ug/mL	
							2,4-Dinitrotoluene	10 ug/mL	
							2,6-Dinitrotoluene	10 ug/mL	
							2-Amino-4,6-dinitrotoluene	10 ug/mL	
							2-Nitrotoluene	10 ug/mL	
							3-Nitrotoluene	10 ug/mL	
							4-Amino-2,6-dinitrotoluene	10 ug/mL	
							4-Nitrotoluene	10 ug/mL	
							HMX	10 ug/mL	
							Nitrobenzene	10 ug/mL	
RDX	10 ug/mL								
Tetryl	10 ug/mL								
1,2-Dinitrobenzene	10 ug/mL								
.8330_NG1000_00014	05/14/25		Restek, Lot A0208632		(Purchased Reagent)	Nitroglycerin	1000 ug/mL		
.8330_PETN1000_00017	05/14/25		Restek, Lot A0207895		(Purchased Reagent)	PETN	1000 ug/mL		
.8330ICALStock_00035	01/23/25	01/23/24	Acetonitrile, Lot 233799	10 mL	8330_Stock_TS_00024	1 mL	1,3,5-Trinitrobenzene	100 ug/mL	
							1,3-Dinitrobenzene	100 ug/mL	
							2,4,6-Trinitrotoluene	100 ug/mL	
							2,4-Dinitrotoluene	100 ug/mL	
							2,6-Dinitrotoluene	100 ug/mL	
							2-Amino-4,6-dinitrotoluene	100 ug/mL	
							2-Nitrotoluene	100 ug/mL	
							3-Nitrotoluene	100 ug/mL	
							4-Amino-2,6-dinitrotoluene	100 ug/mL	
							4-Nitrotoluene	100 ug/mL	
							HMX	100 ug/mL	
							Nitrobenzene	100 ug/mL	
							RDX	100 ug/mL	
							Tetryl	100 ug/mL	
1,2-Dinitrobenzene	100 ug/mL								
..8330_Stock_TS_00024	01/23/25		Agilent, Lot 0006684308		8330SurrStock_00173	1 mL	(Purchased Reagent)	1,3,5-Trinitrobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL	
							2,4,6-Trinitrotoluene	1000 ug/mL	
							2,4-Dinitrotoluene	1000 ug/mL	
							2,6-Dinitrotoluene	1000 ug/mL	
							2-Amino-4,6-dinitrotoluene	1000 ug/mL	
							2-Nitrotoluene	1000 ug/mL	
							3-Nitrotoluene	1000 ug/mL	
							4-Amino-2,6-dinitrotoluene	1000 ug/mL	
							4-Nitrotoluene	1000 ug/mL	
							HMX	1000 ug/mL	

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver

Job No.: 280-191579-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nitrobenzene	1000 ug/mL
							RDX	1000 ug/mL
							Tetryl	1000 ug/mL
.8330SurrStock 00173	01/23/25		AccuStandard, Lot 219051500			(Purchased Reagent)	1,2-Dinitrobenzene	1000 ug/mL
8330Surrogate_00154	09/01/24	03/01/24	Acetonitrile, Lot Acetonitrile_00086	500 mL	8330SurrStkSS_00310	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00311	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00312	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00314	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00315	1 mL	1,2-Dinitrobenzene	10 ug/mL
.8330SurrStkSS 00310	03/01/25		Restek, Lot A0200577			(Purchased Reagent)	1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS 00311	03/01/25		Restek, Lot A0200577			(Purchased Reagent)	1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS 00312	03/01/25		Restek, Lot A0200577			(Purchased Reagent)	1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS 00314	03/01/25		Restek, Lot A0200577			(Purchased Reagent)	1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS 00315	03/01/25		Restek, Lot A0200577			(Purchased Reagent)	1,2-Dinitrobenzene	1000 ug/mL
8330Surrogate_00155	10/26/24	04/26/24	Acetonitrile, Lot Acetonitrile_00086	500 mL	8330SurrStkSS_00313	1 mL	1,2-Dinitrobenzene	10 ug/mL
							1,2-Dinitrobenzene (Surr)	10 ug/mL
					8330SurrStkSS_00316	1 mL	1,2-Dinitrobenzene	10 ug/mL
							1,2-Dinitrobenzene (Surr)	10 ug/mL
					8330SurrStkSS_00317	1 mL	1,2-Dinitrobenzene	10 ug/mL
							1,2-Dinitrobenzene (Surr)	10 ug/mL
					8330SurrStkSS_00318	1 mL	1,2-Dinitrobenzene	10 ug/mL
							1,2-Dinitrobenzene (Surr)	10 ug/mL
					8330SurrStkSS_00319	1 mL	1,2-Dinitrobenzene	10 ug/mL
							1,2-Dinitrobenzene (Surr)	10 ug/mL
.8330SurrStkSS_00313	04/26/25		Restek, Lot A0200577			(Purchased Reagent)	1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS_00316	04/26/25		Restek, Lot A0200577			(Purchased Reagent)	1,2-Dinitrobenzene (Surr)	1000 ug/mL
.8330SurrStkSS_00317	04/26/25		Restek, Lot A0200577			(Purchased Reagent)	1,2-Dinitrobenzene (Surr)	1000 ug/mL
.8330SurrStkSS_00318	04/26/25		Restek, Lot A0205460			(Purchased Reagent)	1,2-Dinitrobenzene (Surr)	1000 ug/mL
.8330SurrStkSS_00319	04/26/25		Restek, Lot A0205460			(Purchased Reagent)	1,2-Dinitrobenzene (Surr)	1000 ug/mL

Reagent

3,5-DNA Stock_00052



110 Benner Circle
 Bellefonte, PA 16823-8812
 Tel: 1-814-353-1300
 Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis
chromatographic plus



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31661 Lot No.: A0193965
 Description : 3,5-Dinitroaniline Standard
3, 5-Dinitroaniline Std 1000µg/mL, Acetonitrile, 1mL/ampul
 Container Size : 2 mL Pkg Amt: > 1 mL
 Expiration Date : August 31, 2027 Storage: 10°C or colder
 Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty* (95% C.L.; K=2)
1	3,5-Dinitroaniline	618-87-1	10311HS	99%	1,004.0 µg/mL	+/- 37.4502

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Acetonitrile
 CAS # 75-05-8
 Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330 LCS_00134

Preliminary Report

Eurofins Denver

LCS, Lab Control Sample Report

Sample Path: \\chromfs\Denver\ChromData\CHHPLC_X\20240301-130735.b\03010011.D
 Lims ID: 8330 LCS_00134 Inj. Date: 01-Mar-2024 12:30:35
 Worklist ID: 280-0130735-011 Instrument: CHHPLC_X3
 Method: 8330_X3

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 0B_Sonc_	Limits 2 3535
4 HMX	0.5000	0.4367	87.3	66-115	65-135
8 RDX	0.5000	0.4730	94.6	69-122	68-130
9 2,4,6-Trinitrophenol	0.5000	0.5271	105.4	63-135	80-120
11 1,3,5-Trinitrobenzene	0.5000	0.5189	103.8	62-127	73-125
12 1,3-Dinitrobenzene	0.5000	0.5073	101.5	59-131	78-120
13 Nitrobenzene	0.5000	0.5288	105.8	46-144	65-134
14 3,5-Dinitroaniline	0.5000	0.5048	101.0	55-119	71-117
15 Tetryl	0.5000	0.4891	97.8	56-131	64-128
16 Nitroglycerin	5.00	5.39	107.8	70-125	74-127
17 2,4,6-Trinitrotoluene	0.5000	0.4808	96.2	46-139	71-123
18 4-Amino-2,6-dinitrotolu	0.5000	0.4971	99.4	43-120	76-125
19 2-Amino-4,6-dinitrotolu	0.5000	0.4882	97.6	46-124	79-120
20 2,6-Dinitrotoluene	0.5000	0.4971	99.4	51-130	77-127
21 2,4-Dinitrotoluene	0.5000	0.4832	96.6	53-127	78-120
22 o-Nitrotoluene	0.5000	0.5062	101.2	37-138	70-127
23 p-Nitrotoluene	0.5000	0.5029	100.6	41-137	71-127
24 m-Nitrotoluene	0.5000	0.5100	102.0	31-140	73-125
25 PETN	5.00	5.09	101.7	67-127	73-127

Samples for Limit Group: 1, Lims Prep Method: 8330B_Sonc_10g

280-188024-A-1-A

280-188024-A-2-A

280-188024-A-3-A

280-188024-A-4-A

280-188024-A-5-A

Samples for Limit Group: 2, Lims Prep Method: 3535

410-161632-D-1-A

410-161632-D-2-A

410-161632-D-4-A

410-161632-D-6-A

410-161632-A-7-A

410-161632-A-8-A

Reagent

8330 LCS_00135

Preliminary Report

Eurofins Denver

LCS, Lab Control Sample Report

Sample Path: \\chromfs\Denver\ChromData\CHHPLC_X\20240426-132709.b\8330SURR135.D
 Lims ID: 8330LCS135 Inj. Date: 26-Apr-2024 16:12:12
 Worklist ID: 280-0132709-057 Instrument: CHHPLC_X3
 Method: 8330_X3

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3535
4 HMX	0.5000	0.4520	90.4	65-135
8 RDX	0.5000	0.4499	90.0	68-130
9 2,4,6-Trinitrophenol	0.5000	0.5151	103.0	80-120
11 1,3,5-Trinitrobenzene	0.5000	0.5018	100.4	73-125
12 1,3-Dinitrobenzene	0.5000	0.4976	99.5	78-120
13 Nitrobenzene	0.5000	0.5060	101.2	65-134
14 3,5-Dinitroaniline	0.5000	0.4915	98.3	71-117
15 Tetryl	0.5000	0.5018	100.4	64-128
16 Nitroglycerin	5.00	5.01	100.1	74-127
17 2,4,6-Trinitrotoluene	0.5000	0.4764	95.3	71-123
18 4-Amino-2,6-dinitrotolu	0.5000	0.4969	99.4	76-125
19 2-Amino-4,6-dinitrotolu	0.5000	0.4860	97.2	79-120
20 2,6-Dinitrotoluene	0.5000	0.4963	99.3	77-127
21 2,4-Dinitrotoluene	0.5000	0.4811	96.2	78-120
22 o-Nitrotoluene	0.5000	0.4850	97.0	70-127
23 p-Nitrotoluene	0.5000	0.4768	95.4	71-127
24 m-Nitrotoluene	0.5000	0.4770	95.4	73-125
25 PETN	5.00	5.19	103.8	73-127

Samples for Limit Group: 1, Lims Prep Method: 3535

280-190264-C-6-A	410-168708-B-13-A	410-168533-E-1-A
410-168533-D-2-A	410-168533-E-3-A	410-168533-D-4-A
410-168533-E-5-A	410-168533-D-6-A	410-168533-E-8-A
410-168533-D-9-A	410-168533-B-10-A	410-168533-C-11-A
410-168533-B-12-A	410-168533-B-13-A	410-168533-B-14-A
410-168533-C-15-A	280-190487-B-1-A	280-190487-B-2-A
280-190487-B-3-A	280-190487-B-4-A	280-190487-B-5-A
280-190487-B-6-A	280-190487-B-7-A	280-190487-B-8-A
280-190487-B-9-A	280-190487-B-10-A	280-190487-B-11-A
280-190487-B-12-A	280-190487-B-13-A	280-190487-B-14-A
280-190487-B-15-A	280-190487-B-16-A	

Reagent

8330 LCsMix2_00113



110 Benner Circle
 Bellefonte, PA 16823-8812
 Tel: 1-814-353-1300
 Fax: 1-814-353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis
chromatographic plus



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31451 **Lot No.:** A0199657
Description : 8330 Calibration Mix #2
8330 Calibration Std #2 1000µg/mL, Acetonitrile, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : July 31, 2028 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Tetryl	479-45-8	211028JLM	99%	1,010.0 µg/mL	+/- 47.1183
2	4-Amino-2,6-dinitrotoluene	19406-51-0	ER070908-01	99%	1,008.0 µg/mL	+/- 47.0250
3	2-Amino-4,6-dinitrotoluene	35572-78-2	A210503-001	99%	1,006.0 µg/mL	+/- 46.9317
4	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,010.0 µg/mL	+/- 47.1183
5	2-Nitrotoluene	88-72-2	BCBZ7826	99%	1,000.0 µg/mL	+/- 46.6518
6	4-Nitrotoluene	99-99-0	BCCB0171	99%	1,006.0 µg/mL	+/- 46.9317
7	3-Nitrotoluene	99-08-1	07329LG	99%	1,006.0 µg/mL	+/- 46.9317

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Quality Confirmation Test

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:
1.0 ml/min.

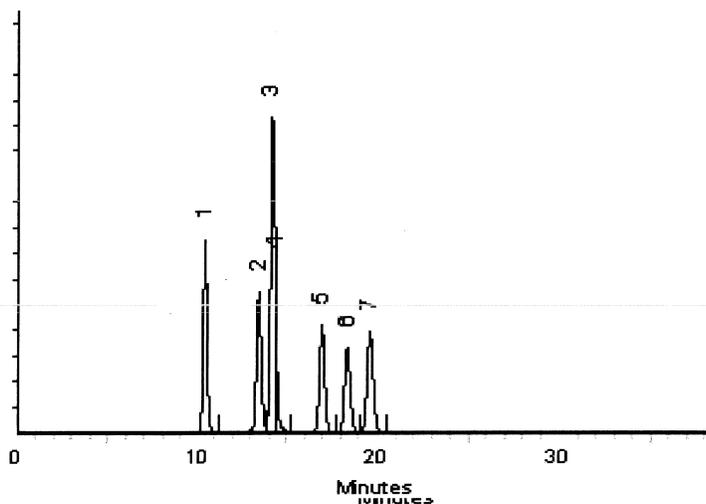
Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210nm & 254nm

Inj. Vol
5µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Alicia Leathers - Operation Technician I

Date Mixed: 07-Jul-2023

Balance Serial # B251644995

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 20-Jul-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330 LCsMix2_00114



110 Benner Circle
 Bellefonte, PA 16823-8812
 Tel: 1-814-353-1300
 Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis
chromatographic plus



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31451 **Lot No.:** A0199657
Description : 8330 Calibration Mix #2
8330 Calibration Std #2 1000µg/mL, Acetonitrile, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : July 31, 2028 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Tetryl	479-45-8	211028JLM	99%	1,010.0 µg/mL	+/- 47.1183
2	4-Amino-2,6-dinitrotoluene	19406-51-0	ER070908-01	99%	1,008.0 µg/mL	+/- 47.0250
3	2-Amino-4,6-dinitrotoluene	35572-78-2	A210503-001	99%	1,006.0 µg/mL	+/- 46.9317
4	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,010.0 µg/mL	+/- 47.1183
5	2-Nitrotoluene	88-72-2	BCBZ7826	99%	1,000.0 µg/mL	+/- 46.6518
6	4-Nitrotoluene	99-99-0	BCCB0171	99%	1,006.0 µg/mL	+/- 46.9317
7	3-Nitrotoluene	99-08-1	07329LG	99%	1,006.0 µg/mL	+/- 46.9317

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Quality Confirmation Test

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:
1.0 ml/min.

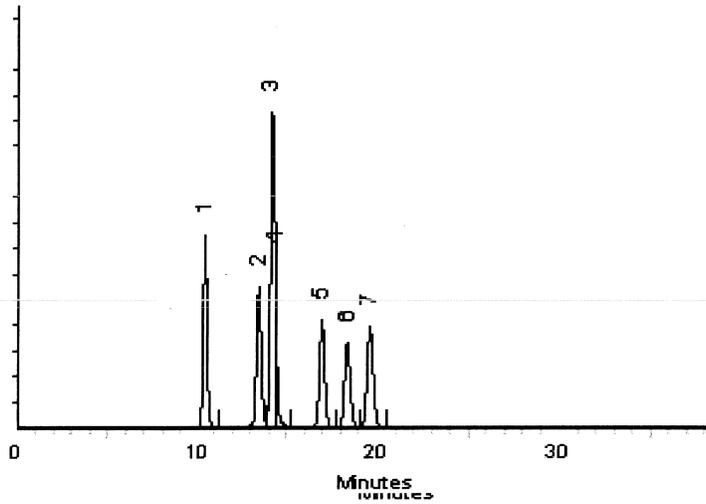
Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

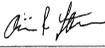
Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210nm & 254nm

Inj. Vol
5µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.


Alicia Leathers - Operation Technician I

Date Mixed: 07-Jul-2023

Balance Serial # B251644995


Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 20-Jul-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ μ ECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330 Stock_TS_00024



ISO 17034

Reference Material Certificate
Product Information Sheet

Product Name: Stock Standard

Lot Number: 0006684308

Product Number: NAIM-833E-1

Lot Issue Date: 01-Jun-2022

Storage Conditions: Store at Room Temperature (15° to 30°C).

Expiration Date: 30-Jun-2025

Component Name	CERTIFIED VALUES			CAS#	Analyte Lot
	Concentration	Expanded Uncertainty			
HMX	1001	± 5 µg/mL		002691-41-0	RM06237
RDX	1001	± 5 µg/mL		000121-82-4	RM10915
1,3,5-trinitrobenzene	1001	± 5 µg/mL		000099-35-4	RM17843
m-dinitrobenzene	1002	± 5 µg/mL		000099-65-0	RM14290
nitrobenzene	1002	± 5 µg/mL		000098-95-3	RM11472
2,4,6-trinitrotoluene (TNT)	1001	± 5 µg/mL		000118-96-7	RM16204
2,4-dinitrotoluene	1002	± 5 µg/mL		000121-14-2	RM10279
tetryl	1003	± 5 µg/mL		000479-45-8	RM14651
2,6-dinitrotoluene	1003	± 5 µg/mL		000606-20-2	RM16636
2-nitrotoluene	1003	± 5 µg/mL		000088-72-2	NT01996
3-nitrotoluene	1002	± 5 µg/mL		000099-08-1	NT02212
4-nitrotoluene	1003	± 5 µg/mL		000099-99-0	NT02096
2-amino-4,6-dinitrotoluene	1003	± 5 µg/mL		035572-78-2	RM04232
4-amino-2,6-dinitrotoluene	1004	± 5 µg/mL		019406-51-0	RM04226

Matrix: acetonitrile

Description:

This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

Traceability:

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:

This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Instructions for Use:

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Reagent

8330_NG_Stk_00145



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 Fax: 1-814-353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis
chromatographic



5/23/2024
 4:44:04 AM

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568871 **Lot No.:** A0201048
Description : Custom Nitroglycerin Standard
Custom Nitroglycerin Standard 5,000µg/mL, Acetonitrile, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : August 31, 2026 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Nitroglycerin	55-63-0	200507JLM	99%	5,008.0 µg/mL	+/- 236.3643

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Page 48 of 308

Quality Confirmation Test

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:
1.0 ml/min.

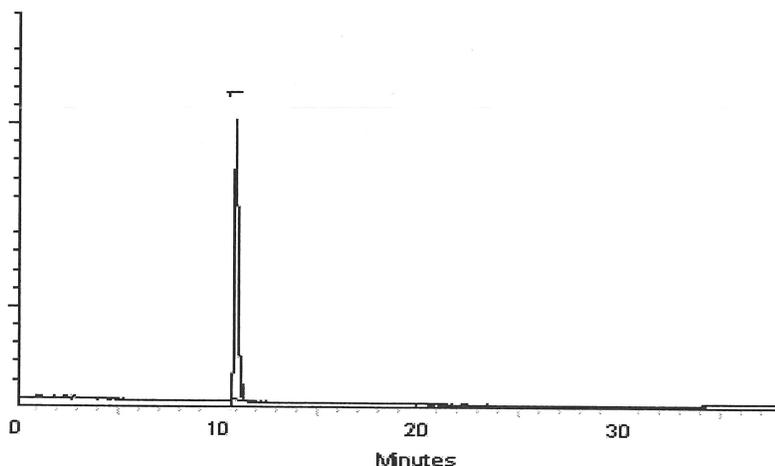
Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210nm & 254nm

Inj. Vol
2.0µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Kyle Struble
Kylie Struble - Operations Technician I

Date Mixed: 16-Aug-2023 **Balance Serial #** 1128360905

Jennifer Pollino
Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 25-Aug-2023 

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ μ ECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330_NG_Stk_00147



110 Benner Circle
 Bellefonte, PA 16823-8812
 Tel: 1-814-353-1300
 Fax: 1-814-353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis
chromatographic



5/23/2024
 4:44:04 AM

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568871 **Lot No.:** A0201048
Description : Custom Nitroglycerin Standard
Custom Nitroglycerin Standard 5,000µg/mL, Acetonitrile, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : August 31, 2026 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Nitroglycerin	55-63-0	200507JLM	99%	5,008.0 µg/mL	+/- 236.3643

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Page 53 of 308

Quality Confirmation Test

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:
1.0 ml/min.

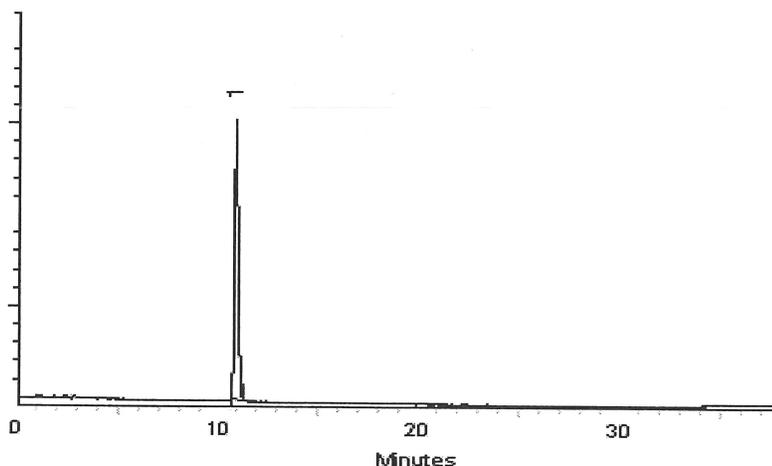
Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210nm & 254nm

Inj. Vol
2.0µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Kyle Struble
Kylie Struble - Operations Technician I

Date Mixed: 16-Aug-2023 Balance Serial # 1128360905

Jennifer Pollino
Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 25-Aug-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ μ ECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{\text{combined uncertainty}} = k \sqrt{u_{\text{gravimetric}}^2 + u_{\text{homogeneity}}^2 + u_{\text{storage stability}}^2 + u_{\text{shipping stability}}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330_NG_Stk_00148



110 Benner Circle
 Bellefonte, PA 16823-8812
 Tel: 1-814-353-1300
 Fax: 1-814-353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis
chromatographic



5/23/2024
 4:44:04 AM

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568871 Lot No.: A0203257
 Description : Custom Nitroglycerin Standard
Custom Nitroglycerin Standard 5,000µg/mL, Acetonitrile, 1mL/ampul
 Container Size : 2 mL Pkg Amt: > 1 mL
 Expiration Date : October 31, 2026 Storage: 10°C or colder
 Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	Nitroglycerin	55-63-0	200507JLM	99%	5,004.0 µg/mL	+/- 236.1755

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Acetonitrile
 CAS # 75-05-8
 Purity 99%

Page 58 of 308

Quality Confirmation Test

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:
1.0 ml/min.

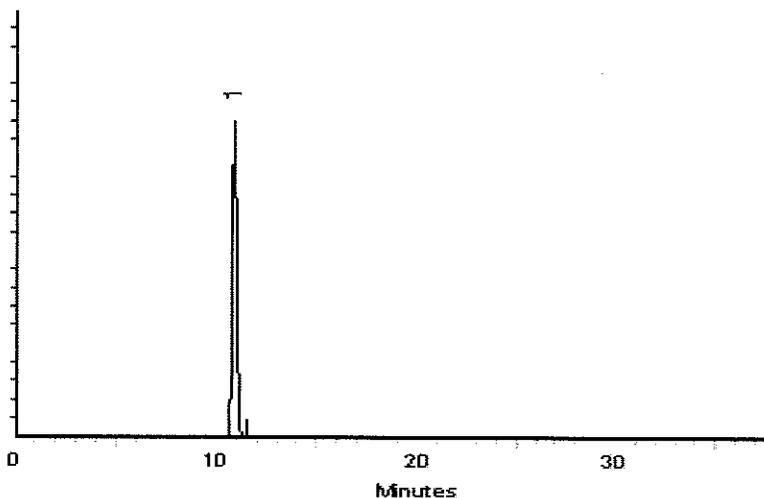
Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210nm & 254nm

Inj. Vol
2.0µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Sam Moodler
Sam Moodler - Operations Tech I

Date Mixed: 17-Oct-2023 Balance Serial # B442140311

Jennifer Pollino
Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 19-Oct-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ μ ECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{\text{combined uncertainty}} = k \sqrt{u_{\text{gravimetric}}^2 + u_{\text{homogeneity}}^2 + u_{\text{storage stability}}^2 + u_{\text{shipping stability}}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330_NG_Stk_00150



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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis
chromatographic



5/23/2024
 4:44:04 AM

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568871 Lot No.: A0203257
 Description : Custom Nitroglycerin Standard
Custom Nitroglycerin Standard 5,000µg/mL, Acetonitrile, 1mL/ampul
 Container Size : 2 mL Pkg Amt: > 1 mL
 Expiration Date : October 31, 2026 Storage: 10°C or colder
 Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty* (95% C.L.; K=2)
1	Nitroglycerin	55-63-0	200507JLM	99%	5,004.0 µg/mL	+/- 236.1755

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Acetonitrile
 CAS # 75-05-8
 Purity 99%

Page 62 of 308

Quality Confirmation Test

Column:

250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:

1.0 ml/min.

Mobile Phase A:

water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:

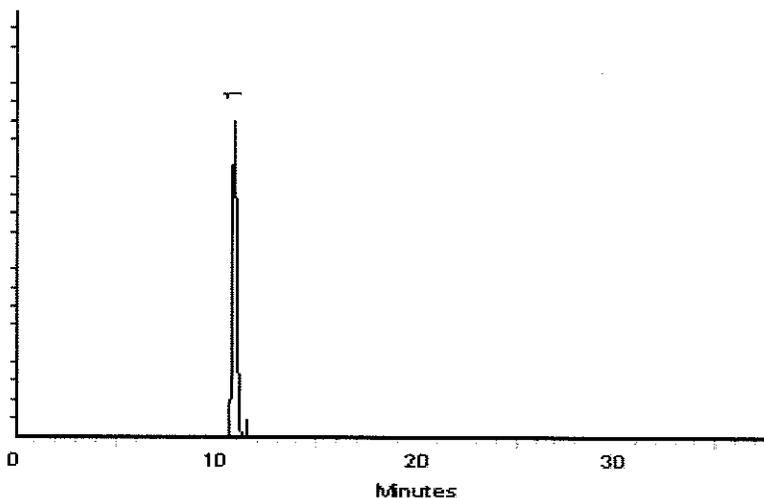
100%A

Det. Type:

Wavelength: 210nm & 254nm

Inj. Vol

2.0µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Sam Moodler
Sam Moodler - Operations Tech I

Date Mixed: 17-Oct-2023 Balance Serial # B442140311

Jennifer Pollino
Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 19-Oct-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ μ ECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{\text{combined uncertainty}} = k \sqrt{u_{\text{gravimetric}}^2 + u_{\text{homogeneity}}^2 + u_{\text{storage stability}}^2 + u_{\text{shipping stability}}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330_NG1000_00012



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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis
chromatographic plus



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31498 **Lot No.:** A0197032
Description : Nitroglycerin Standard
Nitroglycerin Standard 1,000µg/mL, Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : April 30, 2028 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty* (95% C.L.; K=2)
1	Nitroglycerin	55-63-0	200507JLM	99%	1,006.0 µg/mL	+/- 46.9317

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methanol
CAS # 67-56-1
Purity 99%



General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330_NG1000_00014



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CERTIFIED REFERENCE MATERIAL

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31498 **Lot No.:** A0208632
Description : Nitroglycerin Standard
Nitroglycerin Standard 1,000µg/mL, Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : March 31, 2029 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Nitroglycerin	55-63-0	200507JLM	99%	1,002.0 µg/mL	+/- 46.7451

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methanol
CAS # 67-56-1
Purity 99%



Quality Confirmation Test

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:
1.0 ml/min.

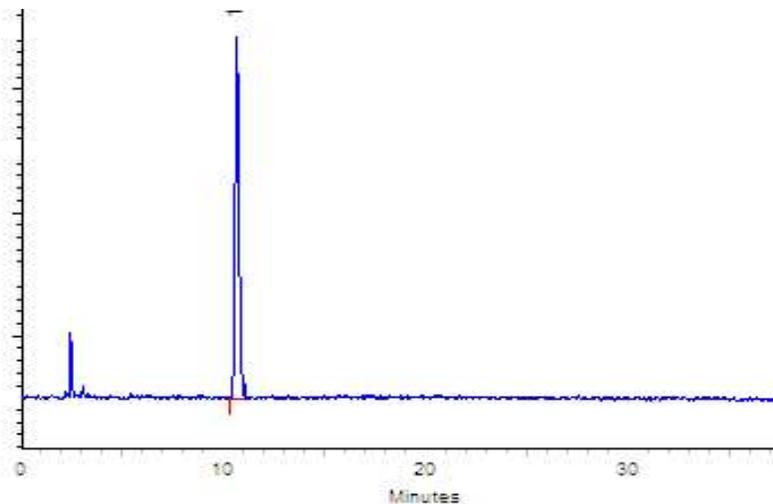
Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210nm & 254nm

Inj. Vol
5µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Morgan Craighead - Mix Technician

Date Mixed: 04-Mar-2024 Balance Serial # 1128342314

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 06-Mar-2024

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330_PETN_Stk_00152



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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis
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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568872 **Lot No.:** A0198972
Description : Custom PETN Standard
Custom PETN Standard 5,000µg/mL, Acetonitrile, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : June 30, 2026 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	PETN	78-11-5	051108JLM	99%	5,012.0 µg/mL	+/- 236.5531

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Quality Confirmation Test

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:
1.0 ml/min.

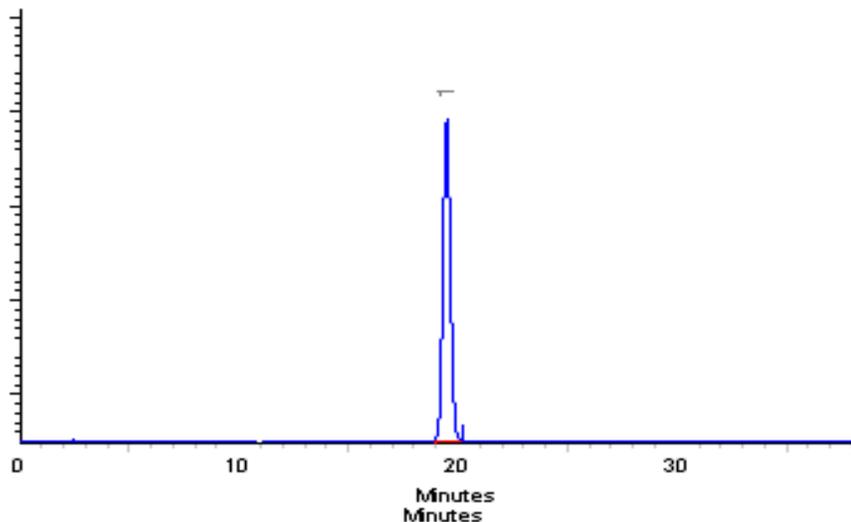
Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210nm & 254nm

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Bryan Snyder
Bryan Snyder - Operations Tech I

Date Mixed: 14-Jun-2023 **Balance Serial #** 1128342314

Jennifer J. Pollino
Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 16-Jun-2023

ARMQC

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330_PETN_Stk_00153



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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568872 **Lot No.:** A0198972
Description : Custom PETN Standard
Custom PETN Standard 5,000µg/mL, Acetonitrile, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : June 30, 2026 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	PETN	78-11-5	051108JLM	99%	5,012.0 µg/mL	+/- 236.5531

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Quality Confirmation Test

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:
1.0 ml/min.

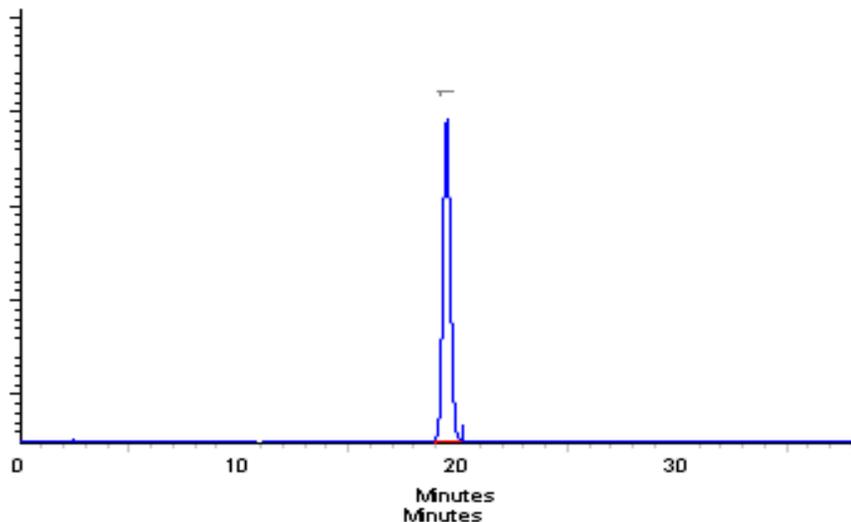
Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210nm & 254nm

Inj. Vol
1 μ l



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.


Bryan Snyder - Operations Tech I

Date Mixed: 14-Jun-2023 **Balance Serial #** 1128342314


Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 16-Jun-2023



Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330_PETN_Stk_00154



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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis
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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568872 **Lot No.:** A0198972
Description : Custom PETN Standard
Custom PETN Standard 5,000µg/mL, Acetonitrile, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : June 30, 2026 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	PETN	78-11-5	051108JLM	99%	5,012.0 µg/mL	+/- 236.5531

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Quality Confirmation Test

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:
1.0 ml/min.

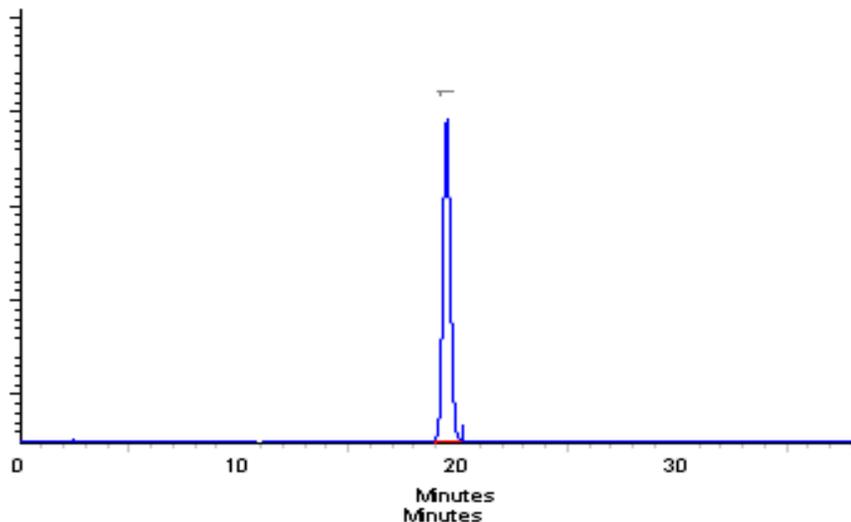
Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210nm & 254nm

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Bryan Snyder
Bryan Snyder - Operations Tech I

Date Mixed: 14-Jun-2023 **Balance Serial #** 1128342314

Jennifer J. Pollino
Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 16-Jun-2023

ARMQC

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330_PETN_Stk_00156



110 Benner Circle
 Bellefonte, PA 16823-8812
 Tel: 1-814-353-1300
 Fax: 1-814-353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis
chromatographic



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568872 **Lot No.:** A0205209
Description : Custom PETN Standard
Custom PETN Standard 5,000µg/mL, Acetonitrile, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : December 31, 2026 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	PETN	78-11-5	051108JLM	99%	5,028.0 µg/mL	+/- 237.3082

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Quality Confirmation Test

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:
1.0 ml/min.

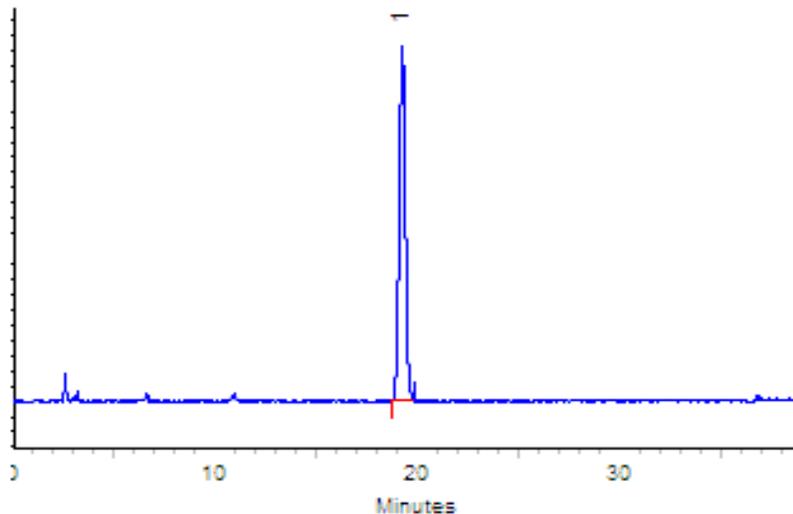
Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210nm & 254nm

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Russ Bookhamer - Operations Technician I

Date Mixed: 07-Dec-2023

Balance Serial # B251644995

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 12-Dec-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330_PETN1000_00016



110 Benner Circle
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 Fax: 1-814-353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis
chromatographic plus



5/23/2024
 4:44:04 AM

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31600 Lot No.: A0198747
 Description : PETN Standard
PETN Standard 1000µg/mL, Methanol, 1mL/ampul
 Container Size : 2 mL Pkg Amt: > 1 mL
 Expiration Date : June 30, 2028 Storage: 10°C or colder
 Handling: Sonicate prior to use. Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty* (95% C.L., K=2)
1	PETN	78-11-5	051108JLM	99%	1,003.0 µg/mL	+/- 46.7917

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methanol
 CAS # 67-56-1
 Purity 99%

Page 89 of 308

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ μ ECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{\text{combined uncertainty}} = k \sqrt{u_{\text{gravimetric}}^2 + u_{\text{homogeneity}}^2 + u_{\text{storage stability}}^2 + u_{\text{shipping stability}}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330_PETN1000_00017



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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis
chromatographic plus



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31600 **Lot No.:** A0207895
Description : PETN Standard
PETN Standard 1000µg/mL, Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : February 28, 2029 **Storage:** 10°C or colder
Handling: Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	PETN	78-11-5	051108JLM	99%	1,006.3 µg/mL	+/- 46.9434

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Quality Confirmation Test

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:
1.0 ml/min.

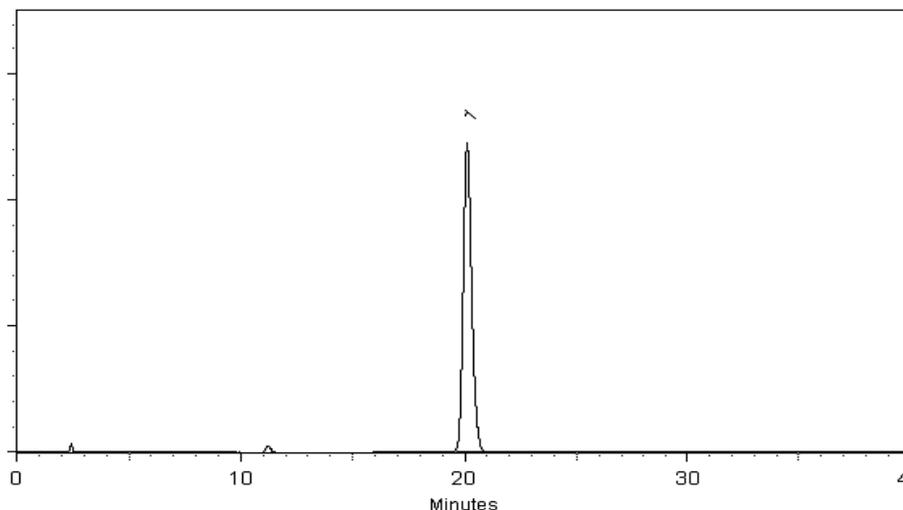
Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210nm & 254nm

Inj. Vol
2 μ l



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

John Friedline - Operations Technician I

Date Mixed: 15-Feb-2024

Balance Serial # 1127510105

Dillan Murphy - Operations Technician I

Date Passed: 20-Feb-2024

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

833035DNASTk_00059

CERTIFICATE OF ANALYSIS

Catalog No: M-8330-ADD-4

Description: 3,5-Dinitroaniline

Lot: 223041214

Solvent: Methanol (50%)
Acetonitrile (50%)

Hazards: Refer to SDS for complete safety information

Date Certified: Apr 14, 2023

Expiration: May 14, 2024

Sample Size: 1 mL

Components: 1

Storage Condition: Ambient (>5 °C)

Certified Reference Material



Signal Word: Danger



Component	CAS #	Purity ³ %	Prepared Concentration ² (µg/mL)	Certified Analyte Concentration ¹ (µg/mL)
3,5-Dinitroaniline	618-87-1	100.0	100.8	100.8

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

¹ Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

² All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

³ Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By:


Larry Decker, Organic QC Manager

Reagent

8330LCsMix1_00151



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 Fax: 1-814-353-1309

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CERTIFIED REFERENCE MATERIAL

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31450 **Lot No.:** A0196548
Description : 8330 Calibration Mix #1
8330 Calibration Std #1 1000µg/mL, Acetonitrile, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : April 30, 2028 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	HMX	2691-41-0	220927JLM	99%	1,010.0 µg/mL	+/- 47.1183
2	RDX	121-82-4	080228JLM	99%	1,002.0 µg/mL	+/- 46.7451
3	1,3,5-Trinitrobenzene	99-35-4	A6TDK	99%	1,010.0 µg/mL	+/- 47.1183
4	1,3-Dinitrobenzene	99-65-0	1-DXX-24-1	99%	1,008.0 µg/mL	+/- 47.0250
5	Nitrobenzene	98-95-3	10224044	99%	1,009.0 µg/mL	+/- 47.0716
6	2,4,6-Trinitrotoluene	118-96-7	D13332500	99%	1,007.0 µg/mL	+/- 46.9783
7	2,4-Dinitrotoluene	121-14-2	MKAA0690V	99%	1,006.0 µg/mL	+/- 46.9317

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Quality Confirmation Test

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:
1.0 ml/min.

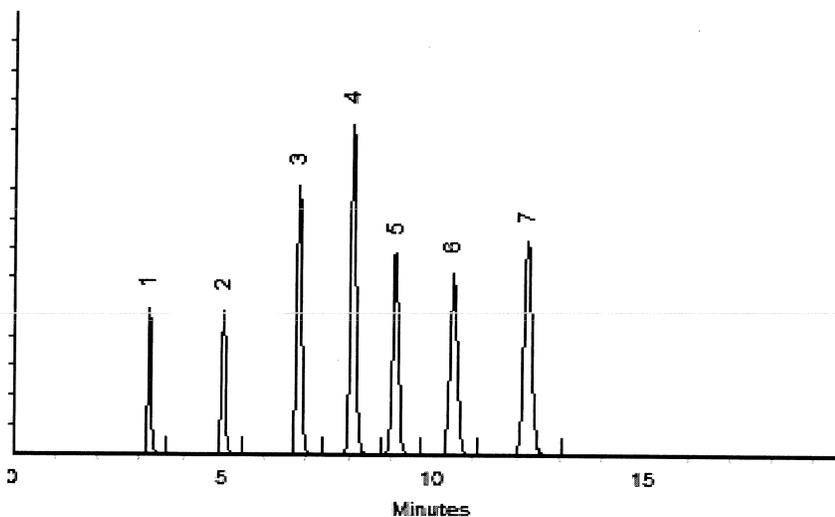
Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210nm & 254nm

Inj. Vol
2µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Sam Moodler
Sam Moodler - Operations Tech I

Date Mixed: 03-Apr-2023 **Balance Serial #** B251644995

Jennifer J. Pollino
Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 05-Apr-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330LCSMix1_00152



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CERTIFIED REFERENCE MATERIAL

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chromatographic plus



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31450 **Lot No.:** A0196548
Description : 8330 Calibration Mix #1
8330 Calibration Std #1 1000µg/mL, Acetonitrile, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : April 30, 2028 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	HMX	2691-41-0	220927JLM	99%	1,010.0 µg/mL	+/- 47.1183
2	RDX	121-82-4	080228JLM	99%	1,002.0 µg/mL	+/- 46.7451
3	1,3,5-Trinitrobenzene	99-35-4	A6TDK	99%	1,010.0 µg/mL	+/- 47.1183
4	1,3-Dinitrobenzene	99-65-0	1-DXX-24-1	99%	1,008.0 µg/mL	+/- 47.0250
5	Nitrobenzene	98-95-3	10224044	99%	1,009.0 µg/mL	+/- 47.0716
6	2,4,6-Trinitrotoluene	118-96-7	D13332500	99%	1,007.0 µg/mL	+/- 46.9783
7	2,4-Dinitrotoluene	121-14-2	MKAA0690V	99%	1,006.0 µg/mL	+/- 46.9317

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Quality Confirmation Test

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:
1.0 ml/min.

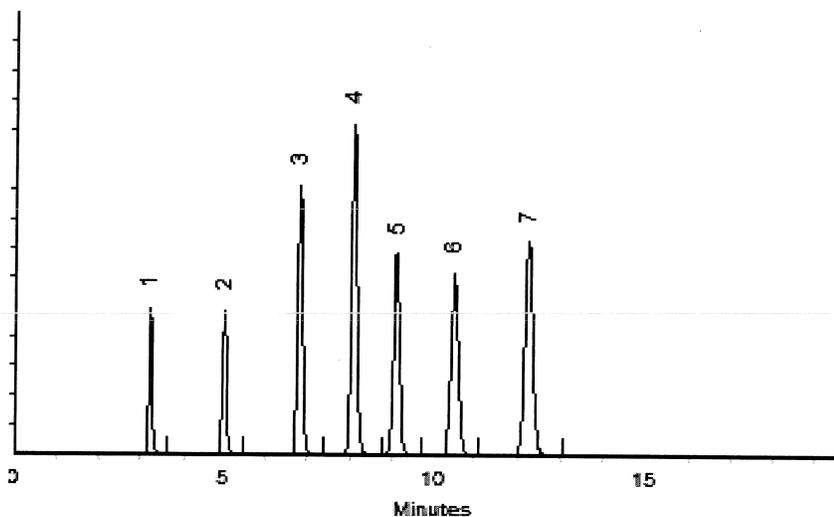
Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210nm & 254nm

Inj. Vol
2µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Sam Moodler
Sam Moodler - Operations Tech I

Date Mixed: 03-Apr-2023 **Balance Serial #** B251644995

Jennifer J. Pollino
Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 05-Apr-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{\text{combined uncertainty}} = k \sqrt{u_{\text{gravimetric}}^2 + u_{\text{homogeneity}}^2 + u_{\text{storage stability}}^2 + u_{\text{shipping stability}}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330PASTkPS_00075

CERTIFICATE OF ANALYSIS

Catalog No: M-8330-ADD-3

Description: Picric acid

Lot: 223041157

Solvent: Acetonitrile (50%)

Methanol (50%)

Hazards: Refer to SDS for complete safety information

Date Certified: Apr 12, 2023

Expiration: May 12, 2025

Sample Size: 1 mL

Components: 1

Storage Condition: Ambient (>5 °C)

Certified Reference Material



Signal Word: Danger



Component	CAS #	Purity ³ %	Prepared Concentration ² (µg/mL)	Certified Analyte Concentration ¹ (µg/mL)
Picric acid	88-89-1	99.1	100.3	99.4

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

¹ Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

² All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

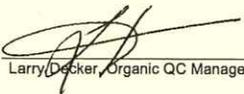
³ Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: 

Larry Decker, Organic QC Manager

Reagent

8330Surrogate_00155

Preliminary Report

Eurofins Denver

LCS, Lab Control Sample Report

Sample Path: \\chromfs\Denver\ChromData\CHHPLC_X\20240426-132709.b\8330SURR155.D
 Lims ID: 8330Surr155 Inj. Date: 26-Apr-2024 15:49:11
 Worklist ID: 280-0132709-056 Instrument: CHHPLC_X3
 Method: 8330_X3

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3535
\$ 10 1,2-Dinitrobenzene	0.5000	0.4971	99.4	83-119

Samples for Limit Group: 1, Lims Prep Method: 3535

280-190264-C-6-A	410-168708-B-13-A	410-168533-E-1-A
410-168533-D-2-A	410-168533-E-3-A	410-168533-D-4-A
410-168533-E-5-A	410-168533-D-6-A	410-168533-E-8-A
410-168533-D-9-A	410-168533-B-10-A	410-168533-C-11-A
410-168533-B-12-A	410-168533-B-13-A	410-168533-B-14-A
410-168533-C-15-A	280-190487-B-1-A	280-190487-B-2-A
280-190487-B-3-A	280-190487-B-4-A	280-190487-B-5-A
280-190487-B-6-A	280-190487-B-7-A	280-190487-B-8-A
280-190487-B-9-A	280-190487-B-10-A	280-190487-B-11-A
280-190487-B-12-A	280-190487-B-13-A	280-190487-B-14-A
280-190487-B-15-A	280-190487-B-16-A	

Reagent

8330SurrStkSS_00310



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 Fax: 1-814-353-1309

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0200577
Description : 8330 Surrogate Mix
8330 Surrogate Mix 1000 µg/mL, Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : August 31, 2028 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L., K=2)
1	1,2-Dinitrobenzene	528-29-0	RP230428	99%	1,003.0 µg/mL	+/- 56.3574

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Page 112 of 308

Quality Confirmation Test

Column:

250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:

1.0 ml/min.

Mobile Phase A:

water:methanol (44:56 V/V)

Mobile Phase B:**Mobile Phase Composition:**

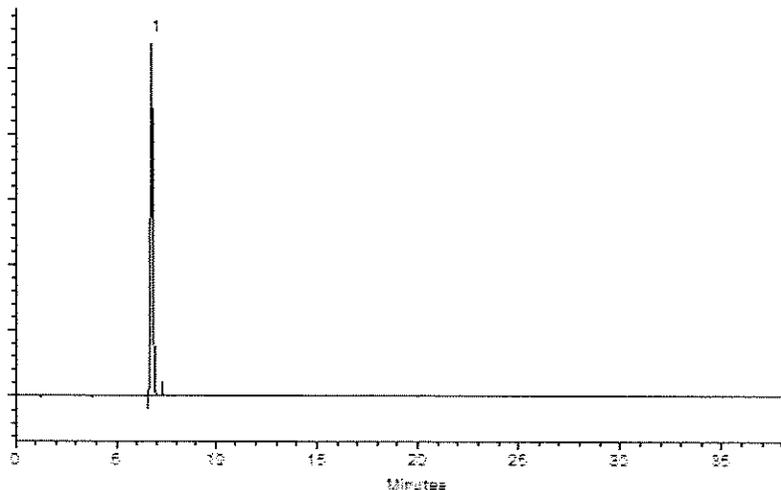
100%A

Det. Type:

Wavelength: 210nm & 254nm

Inj. Vol

2.0µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.


Laith Clemente - Operations Technician I

Date Mixed: 03-Aug-2023

Balance Serial # B707717271


Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 21-Aug-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ μ ECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{\text{combined uncertainty}} = k \sqrt{u_{\text{gravimetric}}^2 + u_{\text{homogeneity}}^2 + u_{\text{storage stability}}^2 + u_{\text{shipping stability}}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330SurrStkSS_00311



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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

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Catalog No. : 31453 **Lot No.:** A0200577
Description : 8330 Surrogate Mix
8330 Surrogate Mix 1000 µg/mL, Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : August 31, 2028 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L., K=2)
1	1,2-Dinitrobenzene	528-29-0	RP230428	99%	1,003.0 µg/mL	+/- 56.3574

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Page 116 of 308

Quality Confirmation Test

5/23/2024
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Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:
1.0 ml/min.

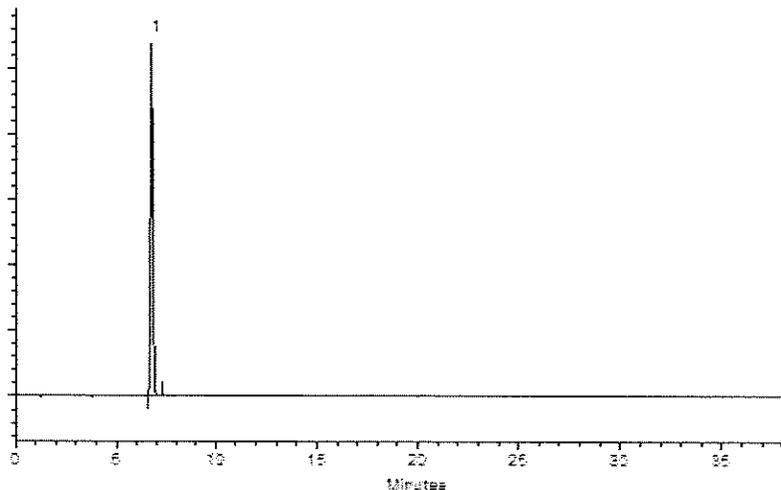
Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210nm & 254nm

Inj. Vol
2.0µl



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[Signature]
Laith Clemente - Operations Technician I

Date Mixed: 03-Aug-2023 Balance Serial # B707717271

[Signature]
Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 21-Aug-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Page 117 of 308

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ μ ECD, GC/MS, LC/MS, RI, and/or melting point.
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- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330SurrStkSS_00312



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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

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Catalog No. : 31453 **Lot No.:** A0200577
Description : 8330 Surrogate Mix
8330 Surrogate Mix 1000 µg/mL, Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : August 31, 2028 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L., K=2)
1	1,2-Dinitrobenzene	528-29-0	RP230428	99%	1,003.0 µg/mL	+/- 56.3574

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Page 120 of 308

Quality Confirmation Test

Column:

250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:

1.0 ml/min.

Mobile Phase A:

water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:

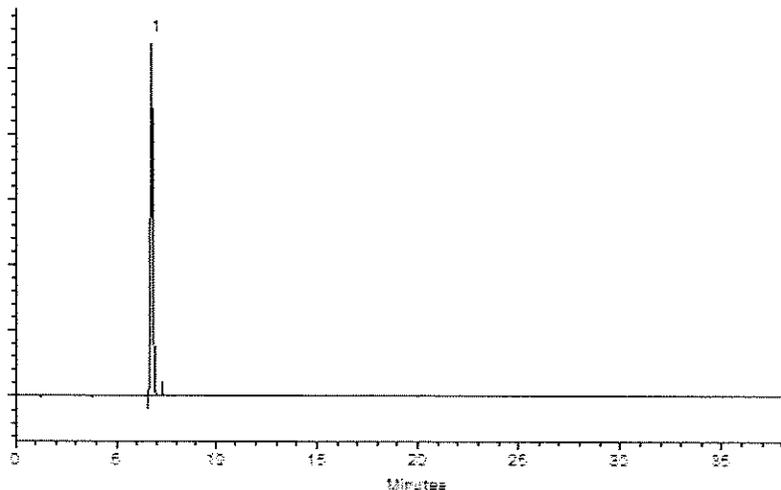
100%A

Det. Type:

Wavelength: 210nm & 254nm

Inj. Vol

2.0µl



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[Signature]
Laith Clemente - Operations Technician I

Date Mixed: 03-Aug-2023

Balance Serial # B707717271

[Signature]
Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 21-Aug-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

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Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

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- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330SurrStkSS_00313



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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0200577
Description : 8330 Surrogate Mix
8330 Surrogate Mix 1000 µg/mL, Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : August 31, 2028 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L., K=2)
1	1,2-Dinitrobenzene	528-29-0	RP230428	99%	1,003.0 µg/mL	+/- 56.3574

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Page 124 of 308

Quality Confirmation Test

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:
1.0 ml/min.

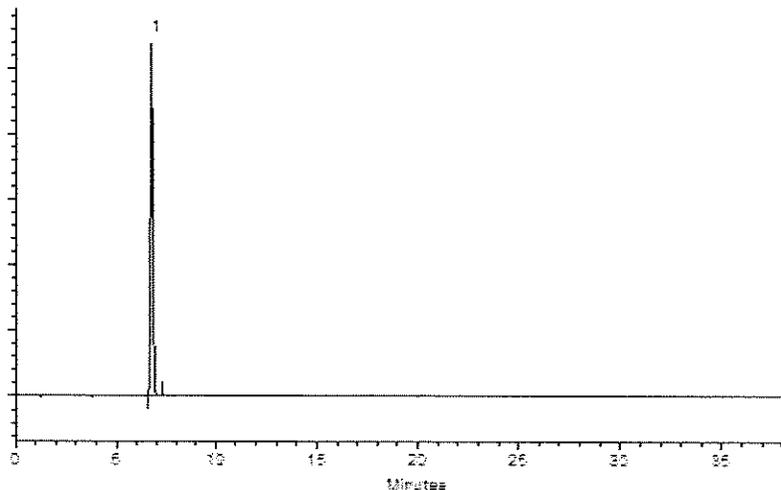
Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210nm & 254nm

Inj. Vol
2.0µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

[Signature]
Laith Clemente - Operations Technician I

Date Mixed: 03-Aug-2023 Balance Serial # B707717271

[Signature]
Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 21-Aug-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

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- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

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Reagent

8330SurrStkSS_00314



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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0200577
Description : 8330 Surrogate Mix
8330 Surrogate Mix 1000 µg/mL, Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : August 31, 2028 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L., K=2)
1	1,2-Dinitrobenzene	528-29-0	RP230428	99%	1,003.0 µg/mL	+/- 56.3574

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Page 128 of 308

Quality Confirmation Test

5/23/2024
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Column:

250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:

1.0 ml/min.

Mobile Phase A:

water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:

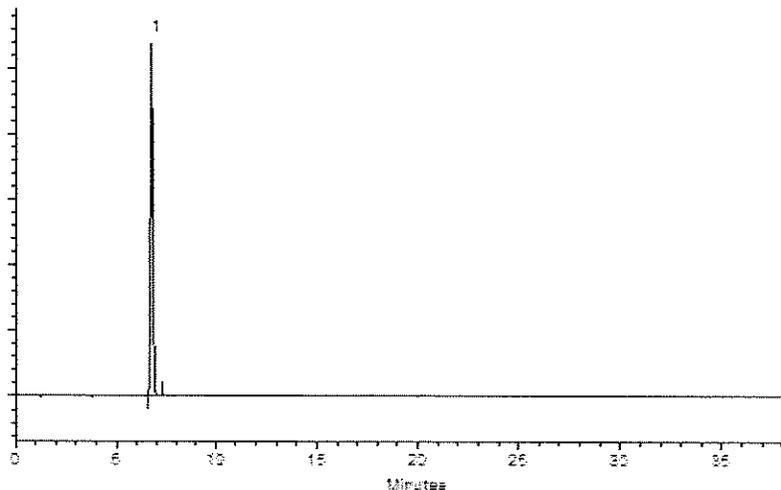
100%A

Det. Type:

Wavelength: 210nm & 254nm

Inj. Vol

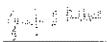
2.0µl



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Laith Clemente - Operations Technician I

Date Mixed: 03-Aug-2023 Balance Serial # B707717271


Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 21-Aug-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Page 129 of 308

General Certified Reference Material Notes

Expiration Notes:

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Reagent

8330SurrStkSS_00315



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Catalog No. : 31453 **Lot No.:** A0200577
Description : 8330 Surrogate Mix
8330 Surrogate Mix 1000 µg/mL, Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : August 31, 2028 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L., K=2)
1	1,2-Dinitrobenzene	528-29-0	RP230428	99%	1,003.0 µg/mL	+/- 56.3574

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Page 132 of 308

Quality Confirmation Test

Column:

250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:

1.0 ml/min.

Mobile Phase A:

water:methanol (44:56 V/V)

Mobile Phase B:**Mobile Phase Composition:**

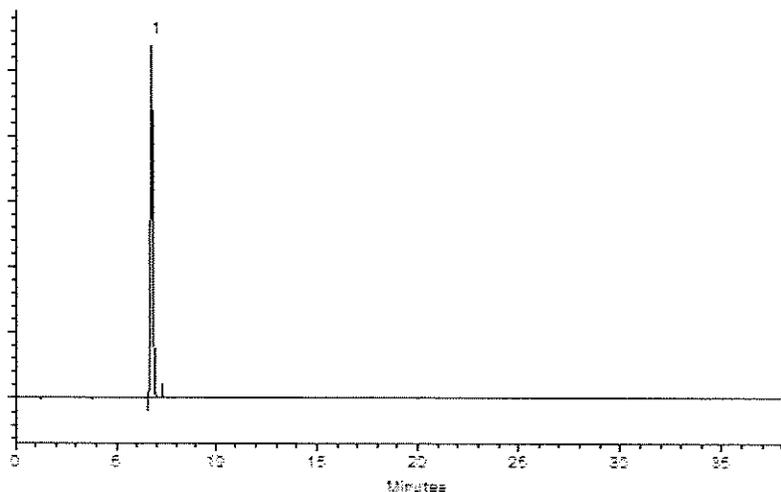
100%A

Det. Type:

Wavelength: 210nm & 254nm

Inj. Vol

2.0µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.


Laith Clemente - Operations Technician I

Date Mixed: 03-Aug-2023 Balance Serial # B707717271


Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 21-Aug-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ μ ECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330SurrStkSS_00316



110 Benner Circle
 Bellefonte, PA 16823-8812
 Tel: 1-814-353-1300
 Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis
chromatographic plus



5/23/2024
 4:44:04 AM

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0200577
Description : 8330 Surrogate Mix
8330 Surrogate Mix 1000 µg/mL, Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : August 31, 2028 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L., K=2)
1	1,2-Dinitrobenzene	528-29-0	RP230428	99%	1,003.0 µg/mL	+/- 56.3574

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Page 136 of 308

Quality Confirmation Test

Column:

250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:

1.0 ml/min.

Mobile Phase A:

water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:

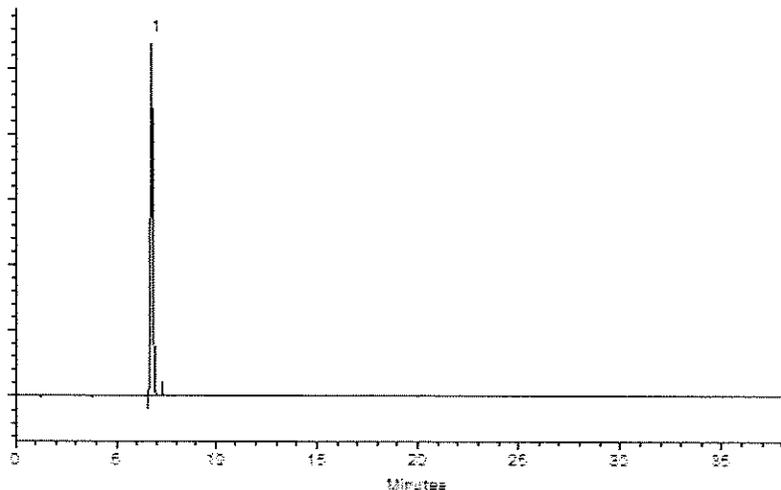
100%A

Det. Type:

Wavelength: 210nm & 254nm

Inj. Vol

2.0µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

[Signature]
Laith Clemente - Operations Technician I

Date Mixed: 03-Aug-2023

Balance Serial # B707717271

[Signature]
Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 21-Aug-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ μ ECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330SurrStkSS_00317



110 Benner Circle
 Bellefonte, PA 16823-8812
 Tel: 1-814-353-1300
 Fax: 1-814-353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis
chromatographic plus



5/23/2024
 4:44:04 AM



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0200577
Description : 8330 Surrogate Mix
8330 Surrogate Mix 1000 µg/mL, Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : August 31, 2028 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L., K=2)
1	1,2-Dinitrobenzene	528-29-0	RP230428	99%	1,003.0 µg/mL	+/- 56.3574

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Page 140 of 308

Quality Confirmation Test

Column:

250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:

1.0 ml/min.

Mobile Phase A:

water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:

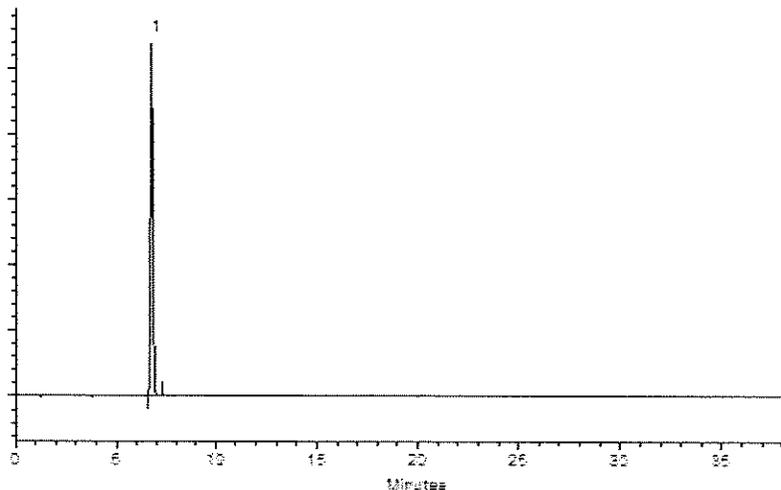
100%A

Det. Type:

Wavelength: 210nm & 254nm

Inj. Vol

2.0µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.


Laith Clemente - Operations Technician I

Date Mixed: 03-Aug-2023

Balance Serial # B707717271


Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 21-Aug-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ μ ECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330SurrStkSS_00318



110 Benner Circle
 Bellefonte, PA 16823-8812
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 Fax: 1-814-353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis
chromatographic plus



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0205460
Description : 8330 Surrogate Mix
8330 Surrogate Mix 1000 µg/mL, Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : December 31, 2028 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,2-Dinitrobenzene	528-29-0	RP231117RSR	99%	1,004.0 µg/mL	+/- 56.4136

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Quality Confirmation Test

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:
1.0 ml/min.

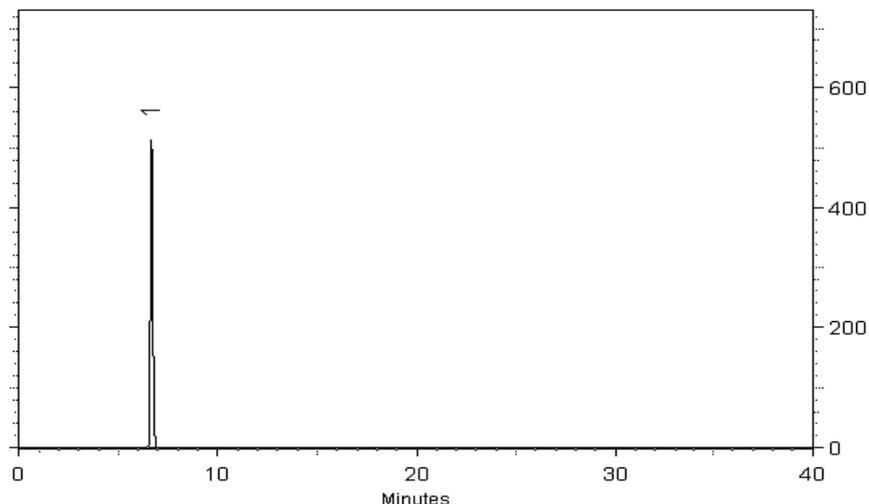
Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210nm & 254nm

Inj. Vol
2.0µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.


Malina Homan - Operations Technician I

Date Mixed: 13-Dec-2023 **Balance Serial #** B707717271


Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 19-Dec-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330SurrStkSS_00319



110 Benner Circle
 Bellefonte, PA 16823-8812
 Tel: 1-814-353-1300
 Fax: 1-814-353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis
chromatographic plus



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0205460
Description : 8330 Surrogate Mix
8330 Surrogate Mix 1000 µg/mL, Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : December 31, 2028 **Storage:** 10°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,2-Dinitrobenzene	528-29-0	RP231117RSR	99%	1,004.0 µg/mL	+/- 56.4136

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Quality Confirmation Test

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:
1.0 ml/min.

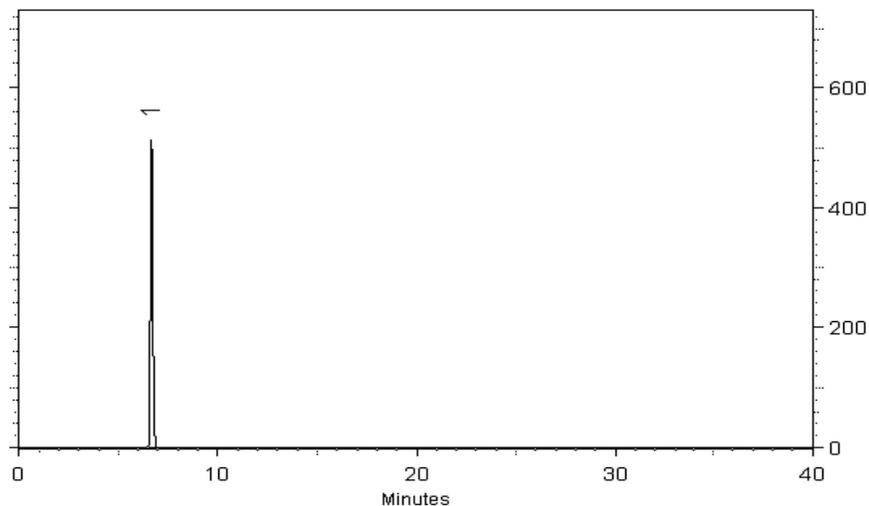
Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210nm & 254nm

Inj. Vol
2.0µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Malina Homan
Malina Homan - Operations Technician I

Date Mixed: 13-Dec-2023 **Balance Serial #** B707717271

Jennifer J. Pollino
Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 19-Dec-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330SurrStock_00173

CERTIFICATE OF ANALYSIS

Catalog No: M-8330-SS

Description: 1,2-Dinitrobenzene

Lot: 219051500

Solvent: Methanol

Hazards: Refer to SDS for complete safety information

Date Certified: May 22, 2019

Expiration: May 22, 2029

Sample Size: 1 mL

Components: 1

Storage Condition: Ambient (>5 °C)



Signal Word: Danger

Certified Reference Material



Component	CAS #	Purity %	Prepared Concentration ²	Certified Analyte Concentration ¹
		(GC/FID)	(µg/mL)	(µg/mL)
1,2-Dinitrobenzene	528-29-0	100.0	1002	1002

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

² All weights are traceable through NIST, Test No. 684/289871-17

¹ Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is $\pm 2.4\%$. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: 

Larry Decker, Organic QC Manager

Reagent

MNX , TNX , DNX _ 00092

Reference Material Certificate
Product Information Sheet

Product Name: Custom Standard

Lot Number: 0006744504

Product Number: CUS-23984

Lot Issue Date: 17-May-2023

Storage Conditions: Store at Room Temperature (15° to 30°C).

Expiration Date: 30-Jun-2024

Component Name	Concentration	Uncertainty	CAS#	Analyte Lot
1,3,5-trinitroso-1,3,5-triazacyclohexane (TNX)	100.4 ±	0.5 µg/mL	N/A	RM12426
1-nitro-3,5-dinitroso-1,3,5-triazacyclohexane (DNX)	100.2 ±	0.5 µg/mL	N/A	RM12428
1-nitroso-3,5-dinitro-1,3,5-triazacyclohexane (MNX)	116.9 ±	0.6 µg/mL	N/A	RM12428

Matrix: acetonitrile

Description:

This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

Traceability:

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:

This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Instructions for Use:

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Safety:

Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

Intended Use:

This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Expiration of Certification:

The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.

Maintenance of Certification:

If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:



Monica Bourgeois
QMS Representative

Reagent

PicricARestek_00124



110 Benner Circle
 Bellefonte, PA 16823-8812
 Tel: 1-814-353-1300
 Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis
chromatographic plus



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31499 _____ **Lot No.:** A0195778 _____
Description : Picric Acid Standard _____
 Picric Acid Standard 1000µg/mL, Methanol, 1mL/1000µg/mL *PGI BOX
 REQUIRED* SHIP FED EX GROUND ONLY
Container Size : 2 mL _____ **Pkg Amt:** > 1 mL _____
Expiration Date : March 31, 2028 _____ **Storage:** 10°C or colder _____
Ship: Ambient _____

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Picric Acid	88-89-1	06130CU	99%	1,002.0 µg/mL	+/- 46.7451

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Quality Confirmation Test

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

Flow Rate:
1.0 ml/min.

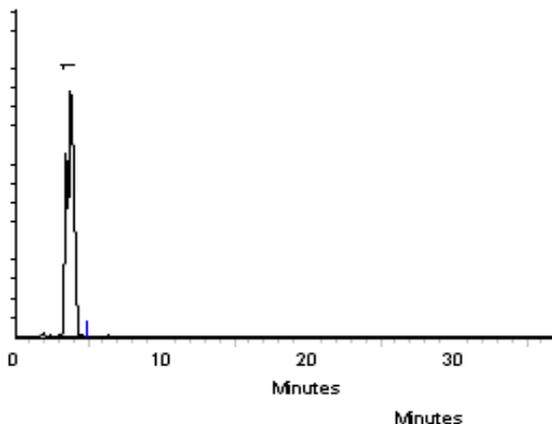
Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210nm & 254nm

Inj. Vol
0.2µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Alicia Leathers - Operation Technician I

Date Mixed: 12-Mar-2023 **Balance Serial #** 1127510105

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 14-Mar-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

8330B_DOD5

Nitroaromatics and Nitramines (HPLC)

FORM II
HPLC/IC SURROGATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-191579-1

SDG No.: _____

Matrix: Water Level: Low

GC Column (1): UltraCarb5u ID: 4.6 (mm)

Client Sample ID	Lab Sample ID	12DNB1 #
LL1mw-082-240401-G W	280-191579-1	104 M
	MB 280-653807/1-A	95
	LCS 280-653807/2-A	98
	LCSD 280-653807/22-A	98

12DNB = 1,2-Dinitrobenzene

QC LIMITS
83-119

Column to be used to flag recovery values

FORM II 8330B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-191579-1
 SDG No.: _____
 Matrix: Water Level: Low Lab File ID: 05180044.D
 Lab ID: LCS 280-653807/2-A Client ID: _____

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,3,5-Trinitrobenzene	2.00	2.07	104	73-125	
1,3-Dinitrobenzene	2.00	1.93	97	78-120	
2,4,6-Trinitrotoluene	2.00	1.88	94	71-123	
2,4-Dinitrotoluene	2.00	1.88	94	78-120	
2,6-Dinitrotoluene	2.00	1.88	94	77-127	
2-Amino-4,6-dinitrotoluene	2.00	1.91	96	79-120	
2-Nitrotoluene	2.00	1.52	76	70-127	
3-Nitrotoluene	2.00	1.51	75	73-125	
4-Amino-2,6-dinitrotoluene	2.00	1.96	98	76-125	
4-Nitrotoluene	2.00	1.49	74	71-127	
HMX	2.00	1.70	85	65-135	M
Nitrobenzene	2.00	1.74	87	65-134	
Nitroglycerin	20.0	19.8	99	74-127	
PETN	20.0	20.9	104	73-127	
RDX	2.00	1.86	93	68-130	
Tetryl	2.00	1.91	96	64-128	

Column to be used to flag recovery and RPD values

FORM III
HPLC/IC LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-191579-1
 SDG No.: _____
 Matrix: Water Level: Low Lab File ID: 05180045.D
 Lab ID: LCSD 280-653807/22-A Client ID: _____

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,3,5-Trinitrobenzene	2.00	2.08	104	0	20	73-125	
1,3-Dinitrobenzene	2.00	1.92	96	0	20	78-120	
2,4,6-Trinitrotoluene	2.00	1.90	95	1	20	71-123	
2,4-Dinitrotoluene	2.00	1.83	91	3	20	78-120	
2,6-Dinitrotoluene	2.00	1.86	93	1	20	77-127	
2-Amino-4,6-dinitrotoluene	2.00	1.86	93	2	20	79-120	
2-Nitrotoluene	2.00	1.48	74	3	20	70-127	
3-Nitrotoluene	2.00	1.47	73	3	20	73-125	
4-Amino-2,6-dinitrotoluene	2.00	1.90	95	3	20	76-125	
4-Nitrotoluene	2.00	1.45	73	2	20	71-127	
HMX	2.00	1.75	87	3	20	65-135	M
Nitrobenzene	2.00	1.69	85	3	20	65-134	
Nitroglycerin	20.0	20.1	101	2	20	74-127	
PETN	20.0	21.3	107	2	20	73-127	
RDX	2.00	1.89	94	1	20	68-130	
Tetryl	2.00	1.95	97	2	20	64-128	

Column to be used to flag recovery and RPD values

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins Denver Job No.: 280-191579-1
 SDG No.: _____
 Lab Sample ID: MB 280-653807/1-A
 Matrix: Water Date Extracted: 05/17/2024 13:10
 Lab File ID: (1) 05180043.D Lab File ID: (2) _____
 Date Analyzed: (1) 05/19/2024 01:24 Date Analyzed: (2) _____
 Instrument ID: (1) CHHPLC_X3 Instrument ID: (2) _____
 GC Column: (1) UltraCarb5uO ID: 4.6 (mm) GC Column: (2) _____ ID: _____

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 280-653807/2-A	05/19/2024 01:47	
	LCSD 280-653807/22-A	05/19/2024 02:10	
LL1mw-082-240401-GW	280-191579-1	05/19/2024 04:51	

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver Job No.: 280-191579-1
 SDG No.: _____
 Client Sample ID: LL1mw-082-240401-GW Lab Sample ID: 280-191579-1
 Matrix: Water Lab File ID: 05180052.D
 Analysis Method: 8330B Date Collected: 05/14/2024 08:35
 Extraction Method: 3535 Date Extracted: 05/17/2024 13:10
 Sample wt/vol: 452.5(mL) Date Analyzed: 05/19/2024 04:51
 Con. Extract Vol.: 5(mL) Dilution Factor: 1
 Injection Volume: 100(uL) GC Column: UltraCarb5uODS ID: 4.6(mm)
 % Moisture: _____ % Solids: _____ GPC Cleanup: (Y/N) N
 Cleanup Factor: _____
 Analysis Batch No.: 653946 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.22	U	0.23	0.22	0.093
99-65-0	1,3-Dinitrobenzene	0.11	U	0.12	0.11	0.041
118-96-7	2,4,6-Trinitrotoluene	0.11	U	0.12	0.11	0.050
121-14-2	2,4-Dinitrotoluene	0.088	U	0.11	0.088	0.030
606-20-2	2,6-Dinitrotoluene	0.088	U	0.11	0.088	0.044
35572-78-2	2-Amino-4,6-dinitrotoluene	0.11	U	0.12	0.11	0.056
88-72-2	2-Nitrotoluene	0.22	U	0.23	0.22	0.094
99-08-1	3-Nitrotoluene	0.39	U	0.44	0.39	0.22
19406-51-0	4-Amino-2,6-dinitrotoluene	0.13	U	0.17	0.13	0.064
99-99-0	4-Nitrotoluene	0.44	U	0.45	0.44	0.11
2691-41-0	HMX	0.22	U M	0.23	0.22	0.097
98-95-3	Nitrobenzene	0.22	U	0.23	0.22	0.10
55-63-0	Nitroglycerin	2.2	U	2.3	2.2	1.0
78-11-5	PETN	1.1	U	1.2	1.1	0.49
121-82-4	RDX	0.22	U	0.23	0.22	0.057
479-45-8	Tetryl	0.11	U	0.12	0.11	0.035

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	104	M	83-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\05180052.D
 Lims ID: 280-191579-B-1-A
 Client ID: LL1mw-082-240401-GW
 Sample Type: Client
 Inject. Date: 19-May-2024 04:51:18 ALS Bottle#: 52 Worklist Smp#: 52
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: 280-191579-B-1-A
 Operator ID: JZ Instrument ID: CHHPLC_X3
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 21-May-2024 14:16:32 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1613

First Level Reviewer: LV5D Date: 21-May-2024 13:40:30

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
4 HMX	1		6.618			ND	U
8 RDX	1		7.624			ND	
\$ 10 1,2-Dinitrobenzene	1	8.554	8.551	0.003	27519	0.2083	M
11 1,3,5-Trinitrobenzene	1		8.684			ND	M
12 1,3-Dinitrobenzene	1		9.297			ND	7
13 Nitrobenzene	1		9.651			ND	
15 Tetryl	1		9.964			ND	
16 Nitroglycerin	2		10.437			ND	
17 2,4,6-Trinitrotoluene	1		10.871			ND	
18 4-Amino-2,6-dinitrotoluene	1		11.037			ND	
19 2-Amino-4,6-dinitrotoluene	1		11.291			ND	
20 2,6-Dinitrotoluene	1		11.437			ND	
21 2,4-Dinitrotoluene	1		11.617			ND	
22 o-Nitrotoluene	1		12.391			ND	
23 p-Nitrotoluene	1		12.804			ND	
24 m-Nitrotoluene	1		13.351			ND	
25 PETN	2		14.384			ND	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

U - Marked Undetected

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20240518-133542.b\05180052.d

Injection Date: 19-May-2024 04:51:18

Instrument ID: CHHPLC_X3

Operator ID: JZ

Lims ID: 280-191579-B-1-A

Lab Sample ID: 280-191579-1

Worklist Smp#: 52

Client ID: LL1mw-082-240401-GW

Injection Vol: 100.0 ul

Dil. Factor: 1.0000

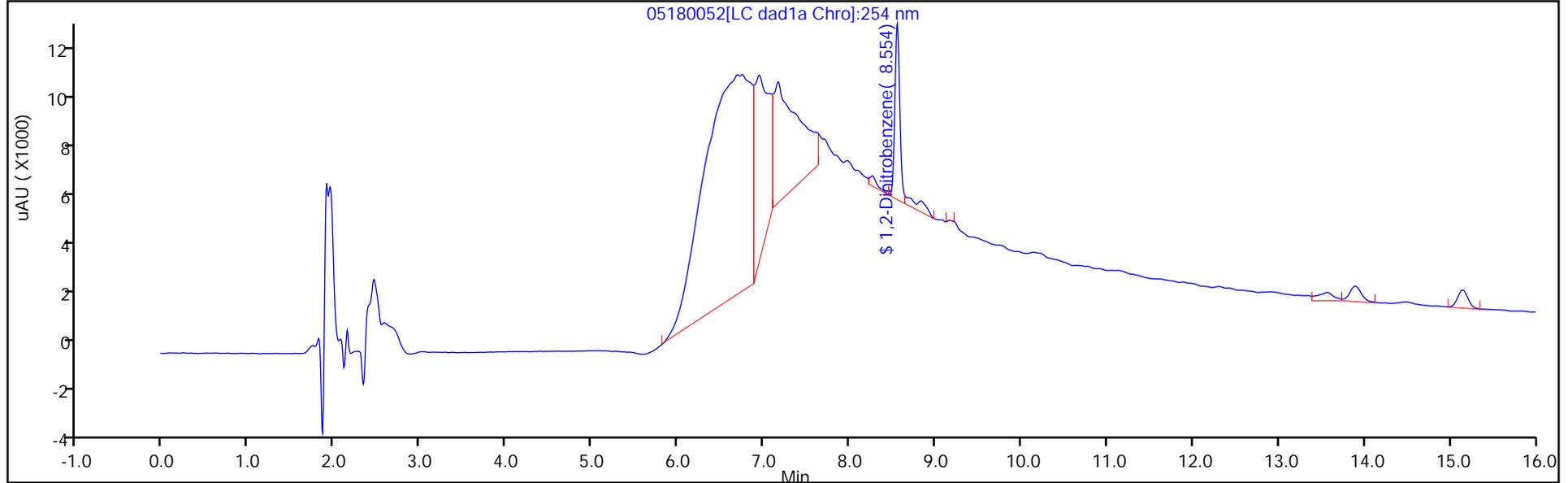
ALS Bottle#: 52

Method: 8330_X3

Limit Group: GCSV - 8330

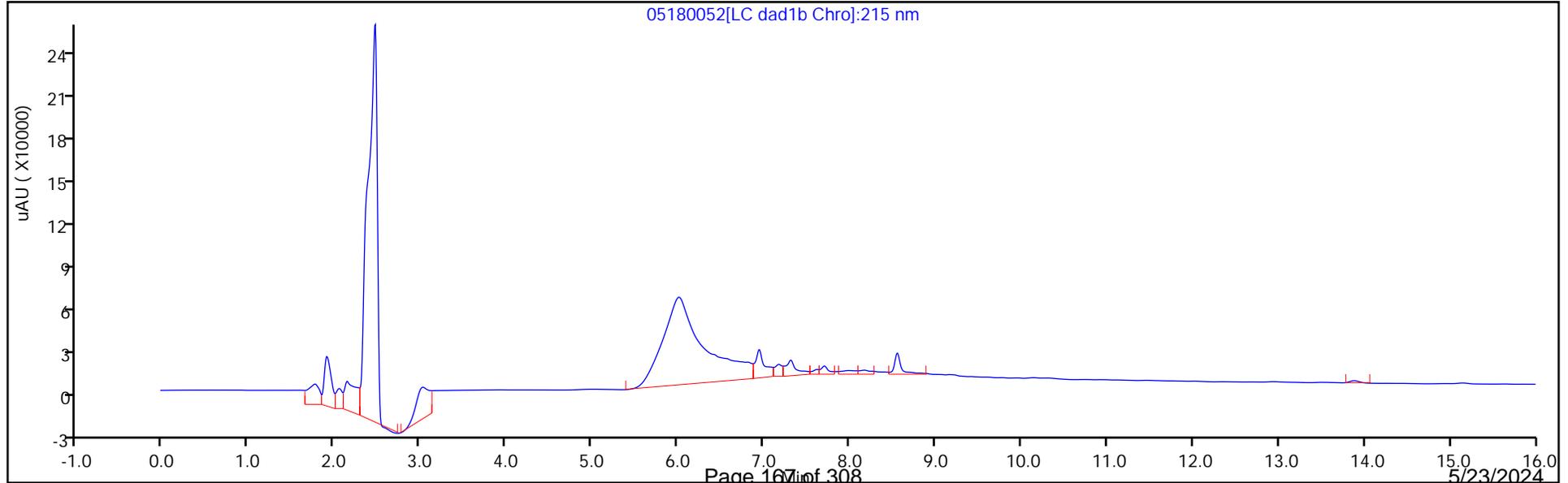
Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\05180052.D
 Lims ID: 280-191579-B-1-A
 Client ID: LL1mw-082-240401-GW
 Sample Type: Client
 Inject. Date: 19-May-2024 04:51:18 ALS Bottle#: 52 Worklist Smp#: 52
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: 280-191579-B-1-A
 Operator ID: JZ Instrument ID: CHHPLC_X3
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 21-May-2024 14:16:32 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1613

First Level Reviewer: LV5D Date: 21-May-2024 13:40:30

Compound	Amount Added	Amount Recovered	% Rec.
\$ 10 1,2-Dinitrobenzene	0.2000	0.2083	104.17

Eurofins Denver

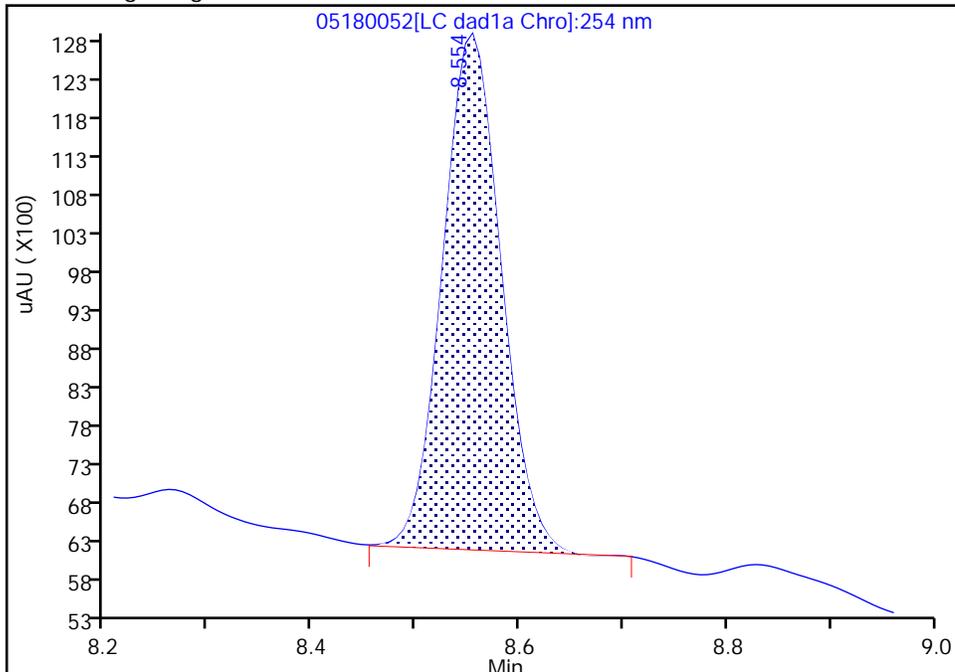
Data File: \\chromfs\denver\chromdata\chhplc_x\20240518-133542.b\05180052.d
Injection Date: 19-May-2024 04:51:18 Instrument ID: CHHPLC_X3
Lims ID: 280-191579-B-1-A Lab Sample ID: 280-191579-1
Client ID: LL1mw-082-240401-GW
Operator ID: JZ ALS Bottle#: 52 Worklist Smp#: 52
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

\$ 10 1,2-Dinitrobenzene, CAS: 528-29-0

Signal: 1

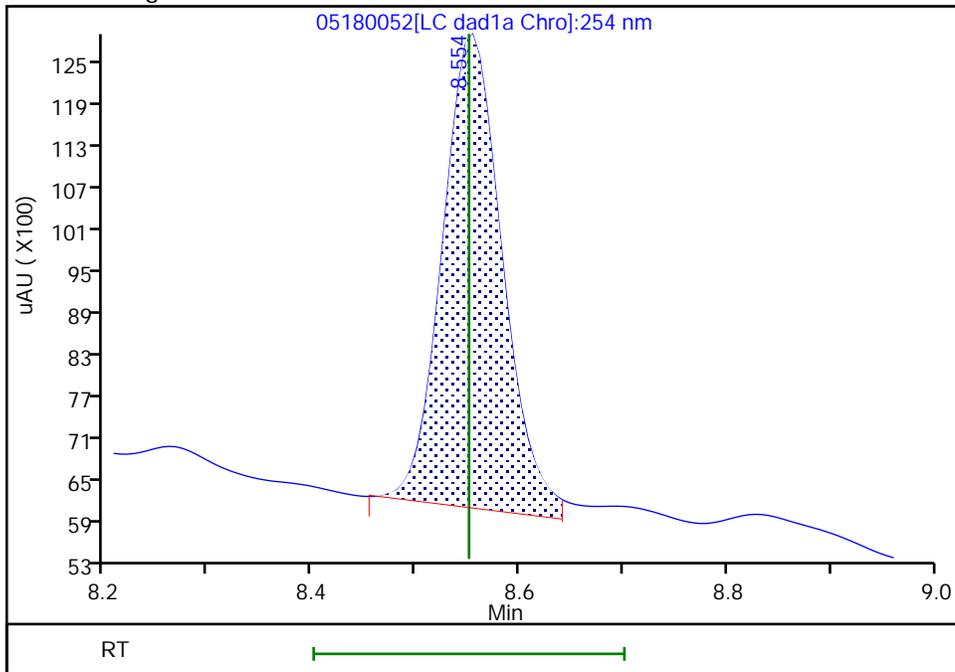
RT: 8.55
Area: 26411
Amount: 0.199932
Amount Units: ug/mL

Processing Integration Results



RT: 8.55
Area: 27519
Amount: 0.208350
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 21-May-2024 13:40:29 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

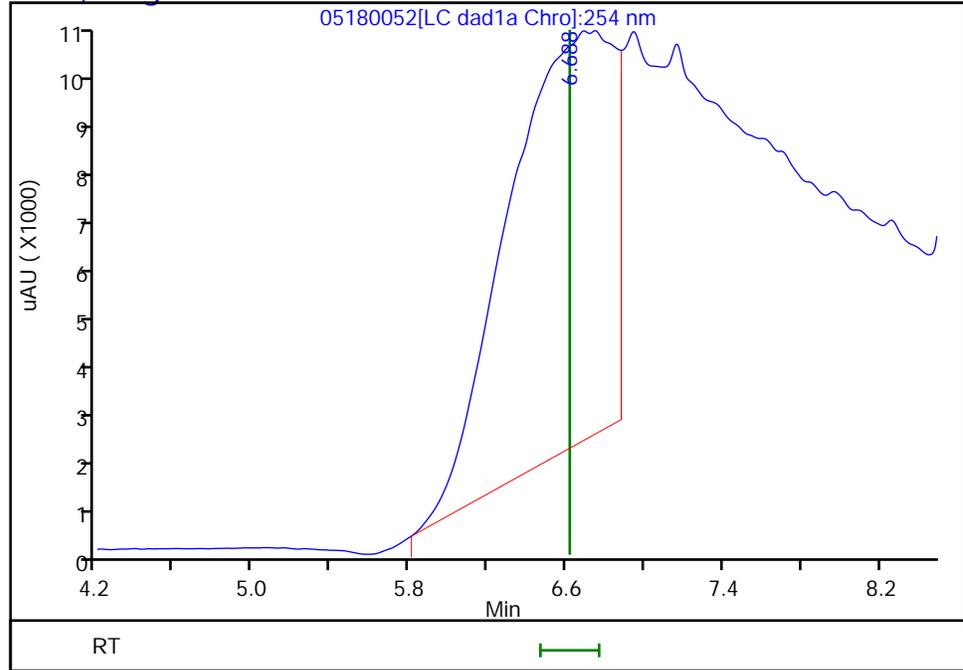
Audit Reason: Baseline

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20240518-133542.b\05180052.d
Injection Date: 19-May-2024 04:51:18 Instrument ID: CHHPLC_X3
Lims ID: 280-191579-B-1-A Lab Sample ID: 280-191579-1
Client ID: LL1mw-082-240401-GW
Operator ID: JZ ALS Bottle#: 52 Worklist Smp#: 52
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

4 HMX, CAS: 2691-41-0, Signal: 1

RT: 6.69
Response: 329068
Amount: 3.444162



Reviewer: LV5D, 21-May-2024 13:40:30

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-191579-1 Analy Batch No.: 649950

SDG No.: _____

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/17/2024 20:37 Calibration End Date: 04/17/2024 23:41 Calibration ID: 92320

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-649950/19	04170019.D
Level 2	IC 280-649950/18	04170018.D
Level 3	IC 280-649950/17	04170017.D
Level 4	IC 280-649950/16	04170016.D
Level 5	IC 280-649950/15	04170015.D
Level 6	IC 280-649950/14	04170014.D
Level 7	IC 280-649950/13	04170013.D
Level 8	IC 280-649950/12	04170012.D
Level 9	IC 280-649950/11	04170011.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8	LVL 9		RT WINDOW	AVG RT
TNX	6.480	6.475	6.478	6.476	6.476	6.479	6.476	6.474	6.469		6.376 - 6.576	6.476
HMX	6.580	6.582	6.578	6.583	6.582	6.586	6.582	6.581	6.575		6.433 - 6.733	6.581
DNX	6.786	6.788	6.784	6.789	6.789	6.786	6.789	6.788	6.782		6.689 - 6.889	6.787
MNX	7.206	7.202	7.204	7.203	7.209	7.206	7.202	7.208	7.195		7.053 - 7.353	7.204
RDX	7.580	7.582	7.584	7.583	7.582	7.586	7.582	7.581	7.575		7.433 - 7.733	7.582
Picric acid	7.820	7.822	7.818	7.816	7.809	7.806	7.789	7.781	7.742		7.666 - 7.966	7.800
1,3,5-Trinitrobenzene	8.660	8.655	8.658	8.656	8.656	8.659	8.656	8.654	8.649		8.506 - 8.806	8.656
1,3-Dinitrobenzene	9.273	9.275	9.277	9.276	9.276	9.279	9.276	9.274	9.262		9.126 - 9.426	9.274
Nitrobenzene	9.633	9.635	9.631	9.636	9.636	9.639	9.629	9.634	9.622		9.486 - 9.786	9.633
3,5-Dinitroaniline	9.873	9.868	9.871	9.876	9.876	9.872	9.869	9.868	9.855		9.726 - 10.026	9.870
Tetryl	9.953	9.955	9.957	9.963	9.962	9.959	9.956	9.954	9.948		9.813 - 10.113	9.956
Nitroglycerin	10.426	10.422	10.424	10.429	10.429	10.432	10.422	10.421	10.415		10.279 - 10.579	10.424
2,4,6-Trinitrotoluene	10.866	10.862	10.864	10.869	10.869	10.872	10.862	10.868	10.862		10.769 - 10.969	10.866
4-Amino-2,6-dinitrotoluene	11.046	11.042	11.044	11.049	11.049	11.052	11.042	11.041	11.035		10.949 - 11.149	11.044
2-Amino-4,6-dinitrotoluene	11.306	11.302	11.304	11.309	11.309	11.306	11.302	11.301	11.288		11.209 - 11.409	11.303
2,6-Dinitrotoluene	11.453	11.448	11.451	11.449	11.456	11.452	11.449	11.448	11.442		11.349 - 11.549	11.450
2,4-Dinitrotoluene	11.626	11.622	11.624	11.629	11.629	11.632	11.622	11.621	11.615		11.529 - 11.729	11.624
2-Nitrotoluene	12.419	12.415	12.424	12.423	12.422	12.426	12.416	12.421	12.408		12.273 - 12.573	12.419
4-Nitrotoluene	12.853	12.842	12.844	12.843	12.842	12.846	12.842	12.841	12.835		12.693 - 12.993	12.843
3-Nitrotoluene	13.399	13.395	13.404	13.403	13.402	13.406	13.396	13.394	13.388		13.253 - 13.553	13.399
PETN	14.486	14.482	14.491	14.483	14.489	14.492	14.482	14.481	14.482		14.333 - 14.633	14.485
1,2-Dinitrobenzene	8.520	8.522	8.518	8.516	8.522	8.519	8.516	8.521	8.509		8.366 - 8.666	8.518

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-191579-1 Analy Batch No.: 649950
 SDG No.: _____
 Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N
 Calibration Start Date: 04/17/2024 20:37 Calibration End Date: 04/17/2024 23:41 Calibration ID: 92320

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-649950/19	04170019.D
Level 2	IC 280-649950/18	04170018.D
Level 3	IC 280-649950/17	04170017.D
Level 4	IC 280-649950/16	04170016.D
Level 5	IC 280-649950/15	04170015.D
Level 6	IC 280-649950/14	04170014.D
Level 7	IC 280-649950/13	04170013.D
Level 8	IC 280-649950/12	04170012.D
Level 9	IC 280-649950/11	04170011.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
TNX	204283 196151 203061	200349 196188	191793 201100	199263 198742	Ave		198992.09 7			1.9		20.0				
HMX	91900 94332 96305	100850 95253	90720 96297	96450 97787	Ave		95543.715 9			3.2		20.0				
DNX	151297 147194 150909	141866 146460	144870 148038	148044 146659	Ave		147259.61 3			2.0		20.0				
MNX	141061 136630 140394	127930 137960	134936 138920	135218 137235	Ave		136698.12 2			2.9		20.0				
RDX	118700 107376 107690	116700 106868	112240 106959	111620 108752	Ave		110767.07 5			4.0		20.0				
Picric acid	78700 78992 82062	76200 79110	76940 79906	80160 81861	Ave		79325.679 4			2.5		20.0				
1,3,5-Trinitrobenzene	254900 216292 219181	217450 215905	225160 215779	221290 219723	Ave		222853.26 3			5.6		20.0				
1,3-Dinitrobenzene	308600 296760 301472	283900 297843	300460 298746	303590 303550	Ave		299435.57 9			2.3		20.0				

Note: The M1 coefficient is the same as Ave CF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-191579-1 Analy Batch No.: 649950

SDG No.: _____

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/17/2024 20:37 Calibration End Date: 04/17/2024 23:41 Calibration ID: 92320

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Nitrobenzene	198500 190564 198214	196600 193678	195180 195570	200350 198305	Ave		196328.94 4			1.5		20.0				
3,5-Dinitroaniline	197100 219364 223150	208550 215118	215620 219330	226510 219396	Lin2	-237.2782 3	221006.73 9						1.0000		0.9900	
Tetryl	183500 180328 183105	168700 185315	180200 181964	182380 188801	Ave		181588.16 5			3.0		20.0				
Nitroglycerin	60480 66994 66784	59815 66731	71314 66745	71367 67945	Ave		66463.888 6			6.1		20.0				
2,4,6-Trinitrotoluene	208100 214372 215788	220000 213738	213380 214716	219120 217516	Ave		215192.17 9			1.7		20.0				
4-Amino-2,6-dinitrotoluene	140600 147324 149438	163050 147888	150660 147166	153440 149965	Ave		149947.84 6			4.0		20.0				
2-Amino-4,6-dinitrotoluene	195100 199804 204593	199850 197140	198460 200077	200330 202927	Ave		199809.03 8			1.4		20.0				
2,6-Dinitrotoluene	155700 143756 144234	144000 147368	145340 143629	152180 146021	Ave		146914.11 9			2.9		20.0				
2,4-Dinitrotoluene	299300 289256 292258	289650 288388	288500 289931	294520 294790	Ave		291843.61 4			1.3		20.0				
2-Nitrotoluene	134000 124092 127714	138850 125230	130520 125813	129770 127758	Ave		129305.25 1			3.6		20.0				
4-Nitrotoluene	124900 107484 109658	120650 107433	112620 108510	113600 110337	Ave		112799.05 6			5.4		20.0				
3-Nitrotoluene	171300 135808 139988	153300 136093	141480 137194	142070 139336	Ave		144063.24 3			8.0		20.0				

Note: The M1 coefficient is the same as Ave CF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-191579-1 Analy Batch No.: 649950

SDG No.: _____

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/17/2024 20:37 Calibration End Date: 04/17/2024 23:41 Calibration ID: 92320

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
PETN	78070 70756 71221	70870 70722	70432 70837	72600 71924	Ave		71936.969 0			3.3		20.0				
1,2-Dinitrobenzene	144500 131148 132647	130150 132498	130420 132159	134500 134411	Lin2	93.780984 2	131630.76 1						0.9990		0.9900	

Note: The M1 coefficient is the same as Ave CF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-191579-1 Analy Batch No.: 649950

SDG No.: _____

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5 ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/17/2024 20:37 Calibration End Date: 04/17/2024 23:41 Calibration ID: 92320

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-649950/19	04170019.D
Level 2	IC 280-649950/18	04170018.D
Level 3	IC 280-649950/17	04170017.D
Level 4	IC 280-649950/16	04170016.D
Level 5	IC 280-649950/15	04170015.D
Level 6	IC 280-649950/14	04170014.D
Level 7	IC 280-649950/13	04170013.D
Level 8	IC 280-649950/12	04170012.D
Level 9	IC 280-649950/11	04170011.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
		LVL 6	LVL 7	LVL 8	LVL 9		LVL 6	LVL 7	LVL 8	LVL 9	
TNX	Ave	2051 78789	4023 141333	9628 199537	20006 509682	49234	0.0100 0.402	0.0201 0.703	0.0502 1.00	0.100 2.51	0.251
HMX	Ave	919 38101	2017 67408	4536 97787	9645 240762	23583	0.0100 0.400	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250
DNX	Ave	1516 58701	2843 103834	7258 146952	14834 378026	36872	0.0100 0.401	0.0200 0.701	0.0501 1.00	0.100 2.51	0.251
MNX	Ave	1649 64510	2991 113678	7887 160428	15807 410302	39930	0.0117 0.468	0.0234 0.818	0.0585 1.17	0.117 2.92	0.292
RDX	Ave	1187 42747	2334 74871	5612 108752	11162 269224	26844	0.0100 0.400	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250
Picric acid	Ave	787 31644	1524 55934	3847 81861	8016 205156	19748	0.0100 0.400	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250
1,3,5-Trinitrobenzene	Ave	2549 86362	4349 151045	11258 219723	22129 547952	54073	0.0100 0.400	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250
1,3-Dinitrobenzene	Ave	3086 119137	5678 209122	15023 303550	30359 753680	74190	0.0100 0.400	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250
Nitrobenzene	Ave	1985 77471	3932 136899	9759 198305	20035 495535	47641	0.0100 0.400	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250
3,5-Dinitroaniline	Lin2	1971 86047	4171 153531	10781 219396	22651 557874	54841	0.0100 0.400	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250
Tetryl	Ave	1835 74126	3374 127375	9010 188801	18238 457763	45082	0.0100 0.400	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250
Nitroglycerin	Ave	6048 266924	11963 467214	35657 679445	71367 1669606	167486	0.100 4.00	0.200 7.00	0.500 10.0	1.00 25.0	2.50
2,4,6-Trinitrotoluene	Ave	2081 85495	4400 150301	10669 217516	21912 539471	53593	0.0100 0.400	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250
4-Amino-2,6-dinitrotoluene	Ave	1406 59155	3261 103016	7533 149965	15344 373596	36831	0.0100 0.400	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250
2-Amino-4,6-dinitrotoluene	Ave	1951	3997	9923	20033	49951	0.0100	0.0200	0.0500	0.100	0.250

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-191579-1 Analy Batch No.: 649950
 SDG No.: _____
 Instrument ID: CHHPLC_X3 GC Column: UltraCarb5 ID: 4.6(mm) Heated Purge: (Y/N) N
 Calibration Start Date: 04/17/2024 20:37 Calibration End Date: 04/17/2024 23:41 Calibration ID: 92320

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
		78856	140054	202927	511483		0.400	0.700	1.00	2.50	
2,6-Dinitrotoluene	Ave	1557 58947	2880 100540	7267 146021	15218 360585	35939	0.0100 0.400	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250
2,4-Dinitrotoluene	Ave	2993 115355	5793 202952	14425 294790	29452 730644	72314	0.0100 0.400	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250
2-Nitrotoluene	Ave	1340 50092	2777 88069	6526 127758	12977 319286	31023	0.0100 0.400	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250
4-Nitrotoluene	Ave	1249 42973	2413 75957	5631 110337	11360 274145	26871	0.0100 0.400	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250
3-Nitrotoluene	Ave	1713 54437	3066 96036	7074 139336	14207 349971	33952	0.0100 0.400	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250
PETN	Ave	7807 282889	14174 495856	35216 719241	72600 1780535	176891	0.100 4.00	0.200 7.00	0.500 10.0	1.00 25.0	2.50
1,2-Dinitrobenzene	Lin2	1445 52999	2603 92511	6521 134411	13450 331618	32787	0.0100 0.400	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250

Curve Type Legend:

Ave = Average
 Lin2 = Linear 1/conc^2

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170011.D
 Lims ID: IC INT/DMT 9
 Client ID:
 Sample Type: IC Calib Level: 9
 Inject. Date: 17-Apr-2024 20:37:59 ALS Bottle#: 11 Worklist Smp#: 11
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: IC INT/DMT 9
 Operator ID: JZ/JG Instrument ID: CHHPLC_X3
 Sublist: chrom-8330_X3*sub27
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 18-Apr-2024 11:59:21 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1675

First Level Reviewer: LV5D

Date: 18-Apr-2024 11:12:45

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
3 TNX	1	6.469	6.476	-0.007	509682	2.51	2.56	M
4 HMX	1	6.575	6.583	-0.008	240762	2.50	2.52	M
6 DNX	1	6.782	6.789	-0.007	378026	2.51	2.57	M
7 MNX	1	7.195	7.203	-0.008	410302	2.92	3.00	
8 RDX	1	7.575	7.583	-0.008	269224	2.50	2.43	
9 2,4,6-Trinitrophenol	1	7.742	7.816	-0.074	205156	2.50	2.59	
\$ 10 1,2-Dinitrobenzene	1	8.509	8.516	-0.007	331618	2.50	2.52	
11 1,3,5-Trinitrobenzene	1	8.649	8.656	-0.007	547952	2.50	2.46	
12 1,3-Dinitrobenzene	1	9.262	9.276	-0.014	753680	2.50	2.52	
13 Nitrobenzene	1	9.622	9.636	-0.014	495535	2.50	2.52	
14 3,5-Dinitroaniline	1	9.855	9.876	-0.021	557874	2.50	2.53	
15 Tetryl	1	9.948	9.963	-0.015	457763	2.50	2.52	
16 Nitroglycerin	2	10.415	10.429	-0.014	1669606	25.0	25.1	
17 2,4,6-Trinitrotoluene	1	10.862	10.869	-0.007	539471	2.50	2.51	
18 4-Amino-2,6-dinitrotoluene	1	11.035	11.049	-0.014	373596	2.50	2.49	
19 2-Amino-4,6-dinitrotoluene	1	11.288	11.309	-0.021	511483	2.50	2.56	
20 2,6-Dinitrotoluene	1	11.442	11.449	-0.007	360585	2.50	2.45	
21 2,4-Dinitrotoluene	1	11.615	11.629	-0.014	730644	2.50	2.50	
22 o-Nitrotoluene	1	12.408	12.423	-0.015	319286	2.50	2.47	
23 p-Nitrotoluene	1	12.835	12.843	-0.008	274145	2.50	2.43	
24 m-Nitrotoluene	1	13.388	13.403	-0.015	349971	2.50	2.43	
25 PETN	2	14.482	14.483	-0.001	1780535	25.0	24.8	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

8330IntermStk_00080

Amount Added: 250.00

Units: uL

8330 DMT_00016

Amount Added: 125.00

Units: uL

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170011.d

Injection Date: 17-Apr-2024 20:37:59

Instrument ID: CHHPLC_X3

Operator ID: JZ/JG

Lims ID: IC INT/DMT 9

Worklist Smp#: 11

Client ID:

Injection Vol: 100.0 ul

Dil. Factor: 1.0000

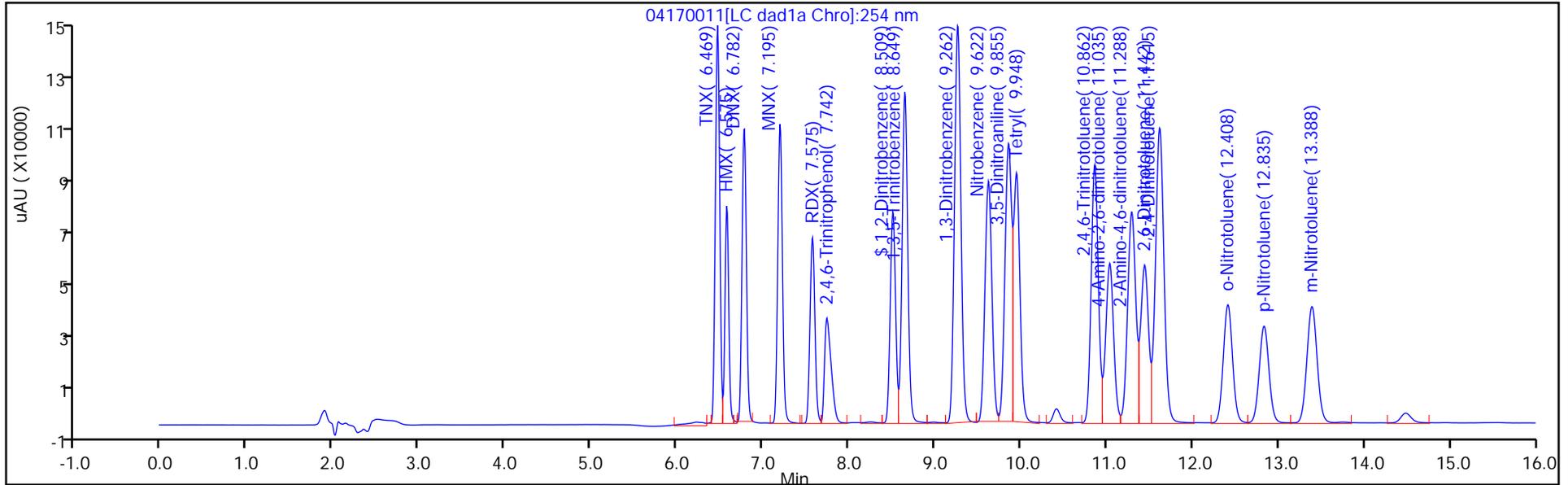
ALS Bottle#: 11

Method: 8330_X3

Limit Group: GCSV - 8330

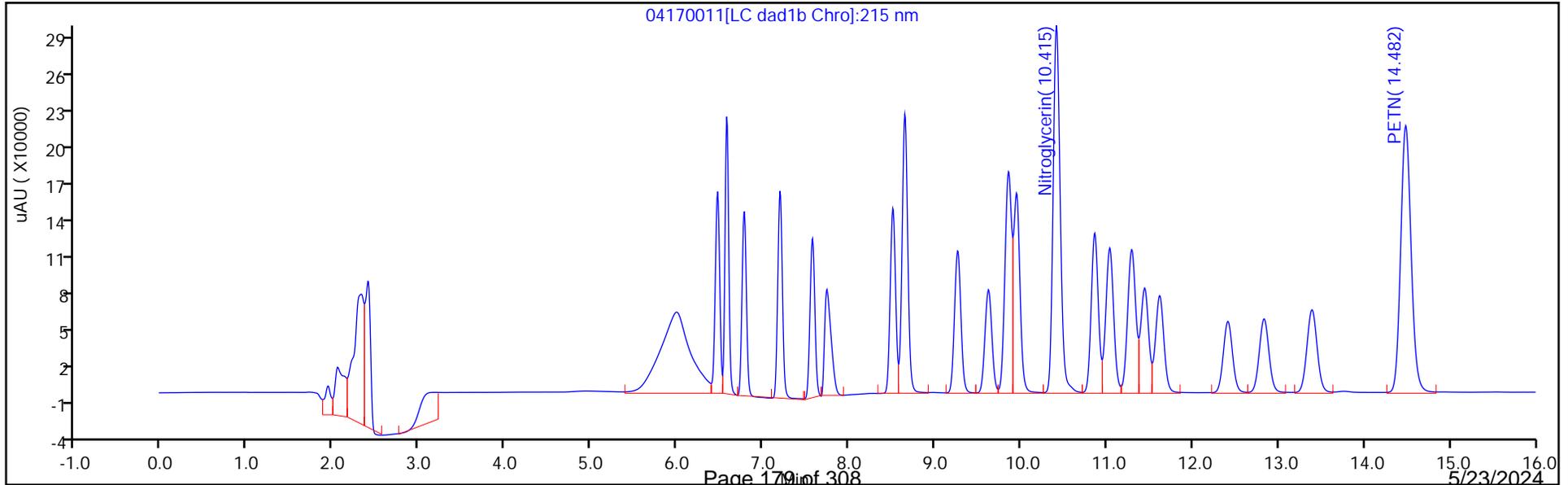
Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Eurofins Denver

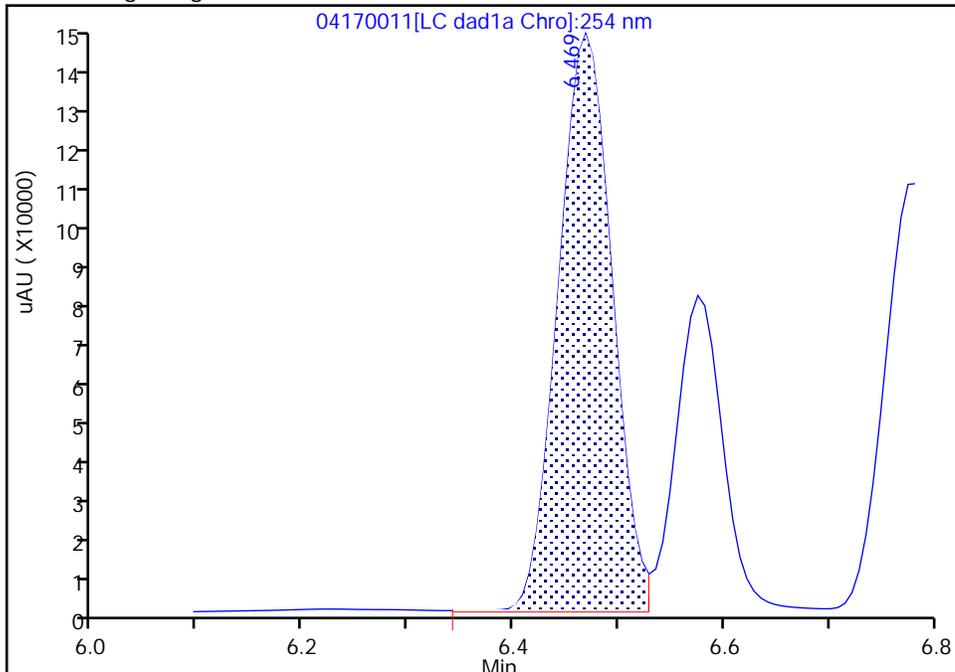
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 Injection Date: 17-Apr-2024 20:37:59 Instrument ID: CHHPLC_X3
 Lims ID: IC INT/DMT 9
 Client ID:
 Operator ID: JZ/JG ALS Bottle#: 11 Worklist Smp#: 11
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Method: 8330_X3 Limit Group: GCSV - 8330
 Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

3 TNX, CAS: 13980-04-6

Signal: 1

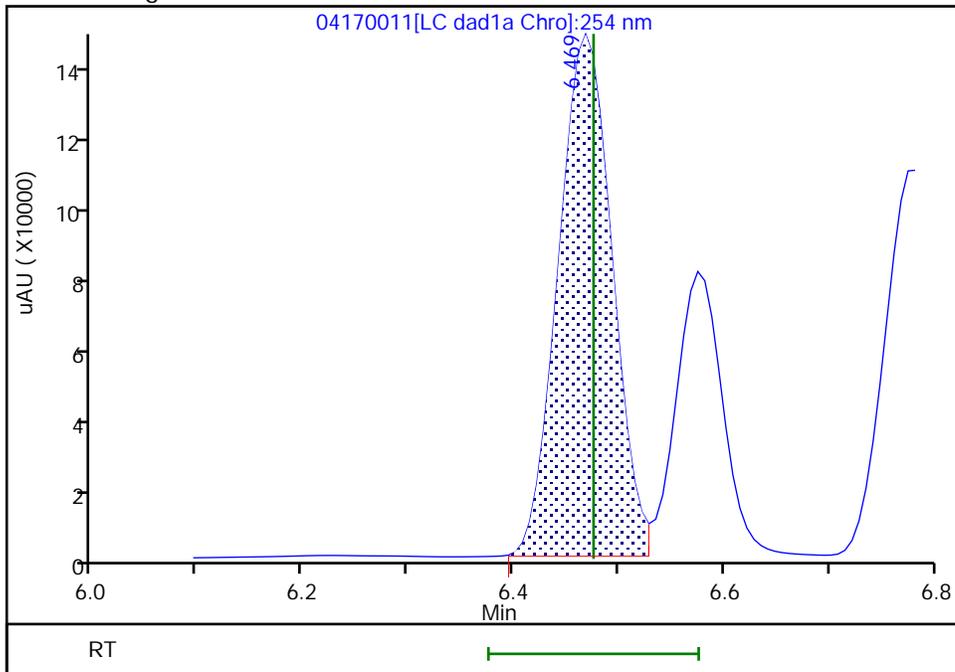
RT: 6.47
 Area: 515297
 Amount: 2.475720
 Amount Units: ug/mL

Processing Integration Results



RT: 6.47
 Area: 509682
 Amount: 2.561318
 Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:13:26 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

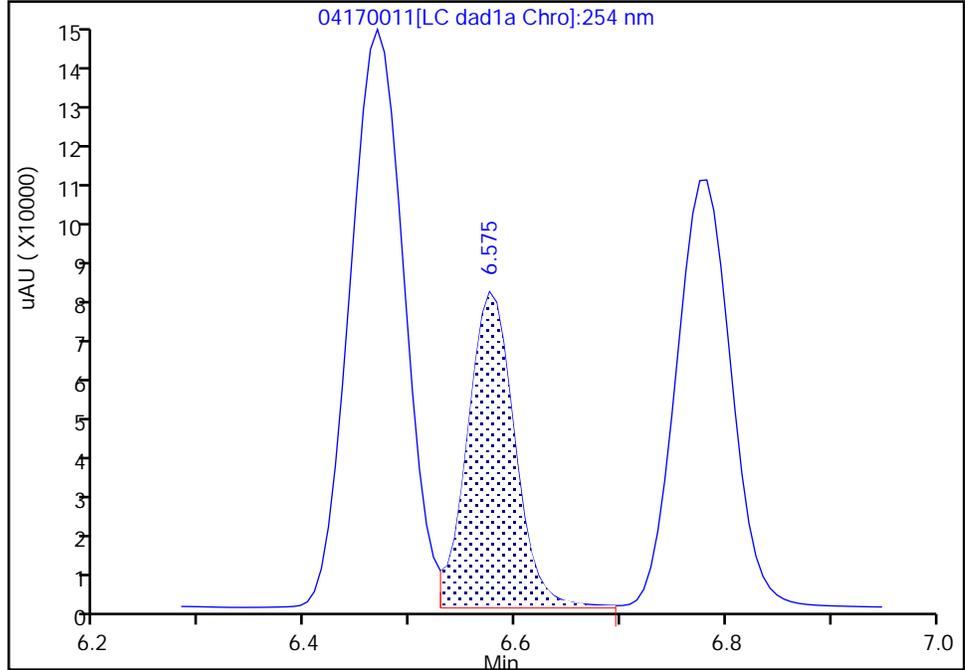
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170011.d
Injection Date: 17-Apr-2024 20:37:59 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 9
Client ID:
Operator ID: JZ/JG ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

4 HMX, CAS: 2691-41-0

Signal: 1

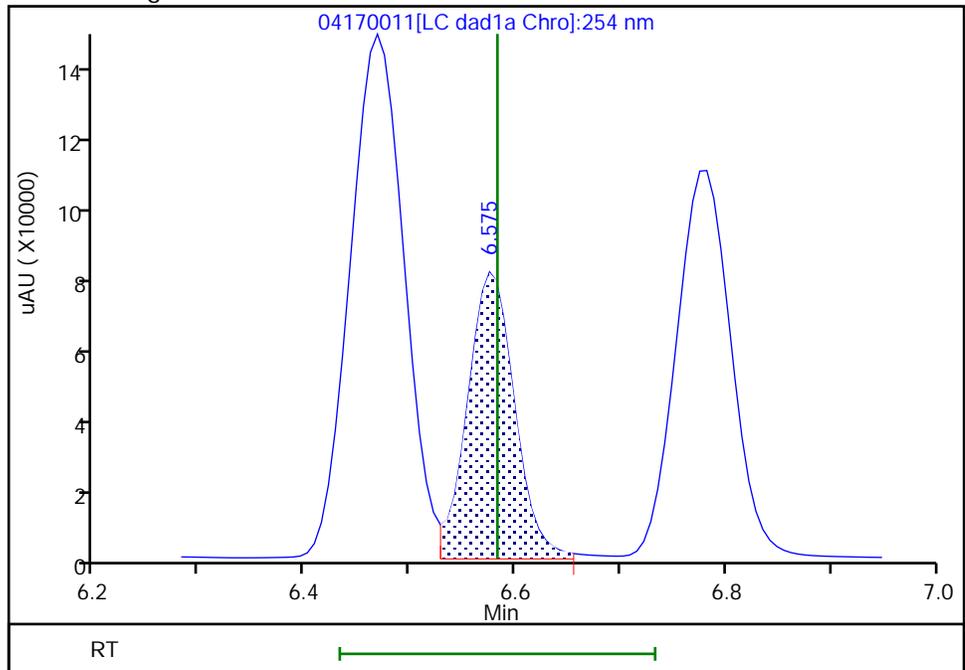
RT: 6.58
Area: 245562
Amount: 2.343167
Amount Units: ug/mL

Processing Integration Results



RT: 6.58
Area: 240762
Amount: 2.519915
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:13:28 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

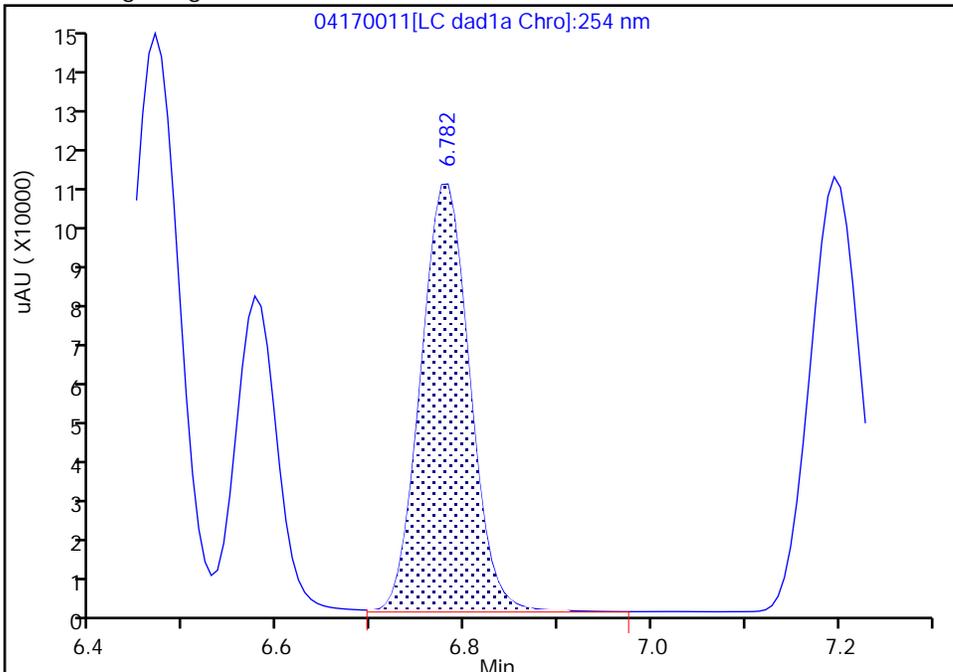
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170011.d
Injection Date: 17-Apr-2024 20:37:59 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 9
Client ID:
Operator ID: JZ/JG ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

6 DNX, CAS: 80251-29-2

Signal: 1

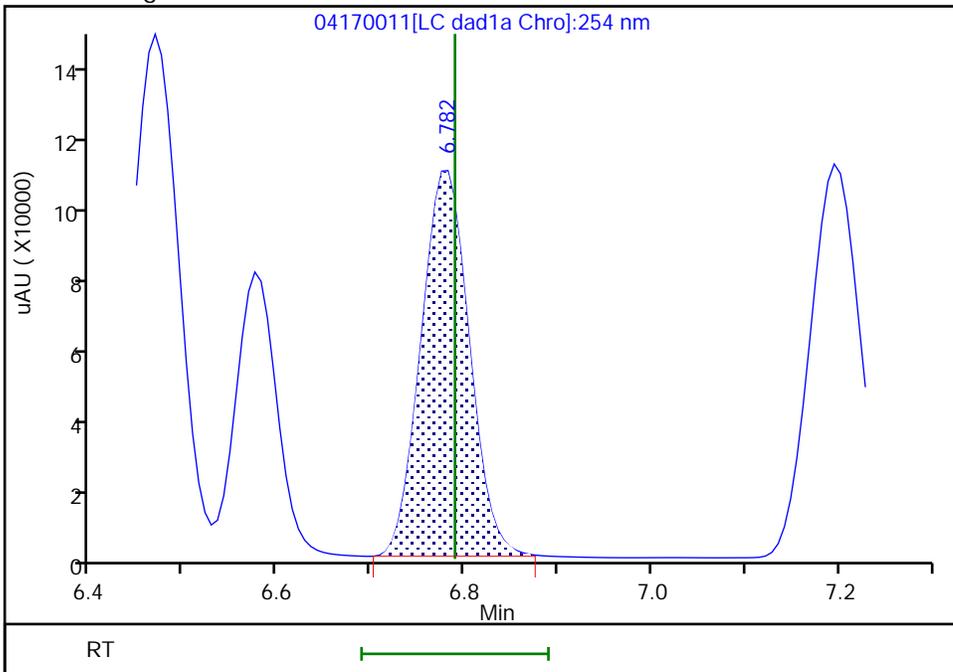
RT: 6.78
Area: 388355
Amount: 2.530843
Amount Units: ug/mL

Processing Integration Results



RT: 6.78
Area: 378026
Amount: 2.567072
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:13:31 -06:00:00 (UTC)

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170012.D
 Lims ID: IC INT/DMT 8
 Client ID:
 Sample Type: IC Calib Level: 8
 Inject. Date: 17-Apr-2024 21:00:56 ALS Bottle#: 12 Worklist Smp#: 12
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: IC INT/DMT 8
 Operator ID: JZ/JG Instrument ID: CHHPLC_X3
 Sublist: chrom-8330_X3*sub27
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 18-Apr-2024 11:59:23 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1675

First Level Reviewer: LV5D Date: 18-Apr-2024 11:13:14

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
3 TNX	1	6.474	6.476	-0.002	199537	1.00	1.00	M
4 HMX	1	6.581	6.583	-0.002	97787	1.00	1.02	M
6 DNX	1	6.788	6.789	-0.001	146952	1.00	1.00	M
7 MNX	1	7.208	7.203	0.005	160428	1.17	1.17	
8 RDX	1	7.581	7.583	-0.002	108752	1.00	0.9818	
9 2,4,6-Trinitrophenol	1	7.781	7.816	-0.035	81861	1.00	1.03	
\$ 10 1,2-Dinitrobenzene	1	8.521	8.516	0.005	134411	1.00	1.02	
11 1,3,5-Trinitrobenzene	1	8.654	8.656	-0.002	219723	1.00	0.9860	
12 1,3-Dinitrobenzene	1	9.274	9.276	-0.002	303550	1.00	1.01	
13 Nitrobenzene	1	9.634	9.636	-0.002	198305	1.00	1.01	
14 3,5-Dinitroaniline	1	9.868	9.876	-0.008	219396	1.00	0.99	
15 Tetryl	1	9.954	9.963	-0.009	188801	1.00	1.04	
16 Nitroglycerin	2	10.421	10.429	-0.008	679445	10.0	10.2	
17 2,4,6-Trinitrotoluene	1	10.868	10.869	-0.001	217516	1.00	1.01	
18 4-Amino-2,6-dinitrotoluene	1	11.041	11.049	-0.008	149965	1.00	1.00	
19 2-Amino-4,6-dinitrotoluene	1	11.301	11.309	-0.008	202927	1.00	1.02	
20 2,6-Dinitrotoluene	1	11.448	11.449	-0.001	146021	1.00	0.99	
21 2,4-Dinitrotoluene	1	11.621	11.629	-0.008	294790	1.00	1.01	
22 o-Nitrotoluene	1	12.421	12.423	-0.002	127758	1.00	0.9880	
23 p-Nitrotoluene	1	12.841	12.843	-0.002	110337	1.00	0.9782	
24 m-Nitrotoluene	1	13.394	13.403	-0.009	139336	1.00	0.9672	
25 PETN	2	14.481	14.483	-0.002	719241	10.0	10.0	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

8330 DMT_00016

Amount Added: 50.00

Units: uL

8330IntermStk_00080

Amount Added: 100.00

Units: uL

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170012.d

Injection Date: 17-Apr-2024 21:00:56

Instrument ID: CHHPLC_X3

Operator ID: JZ/JG

Lims ID: IC INT/DMT 8

Worklist Smp#: 12

Client ID:

Injection Vol: 100.0 ul

Dil. Factor: 1.0000

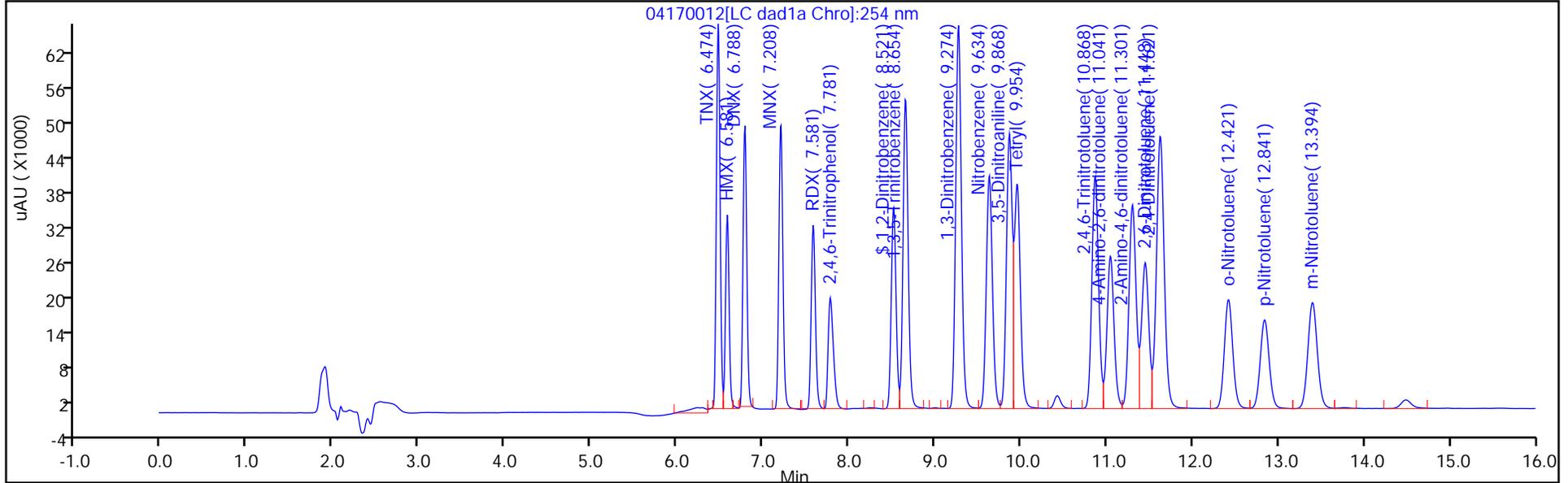
ALS Bottle#: 12

Method: 8330_X3

Limit Group: GCSV - 8330

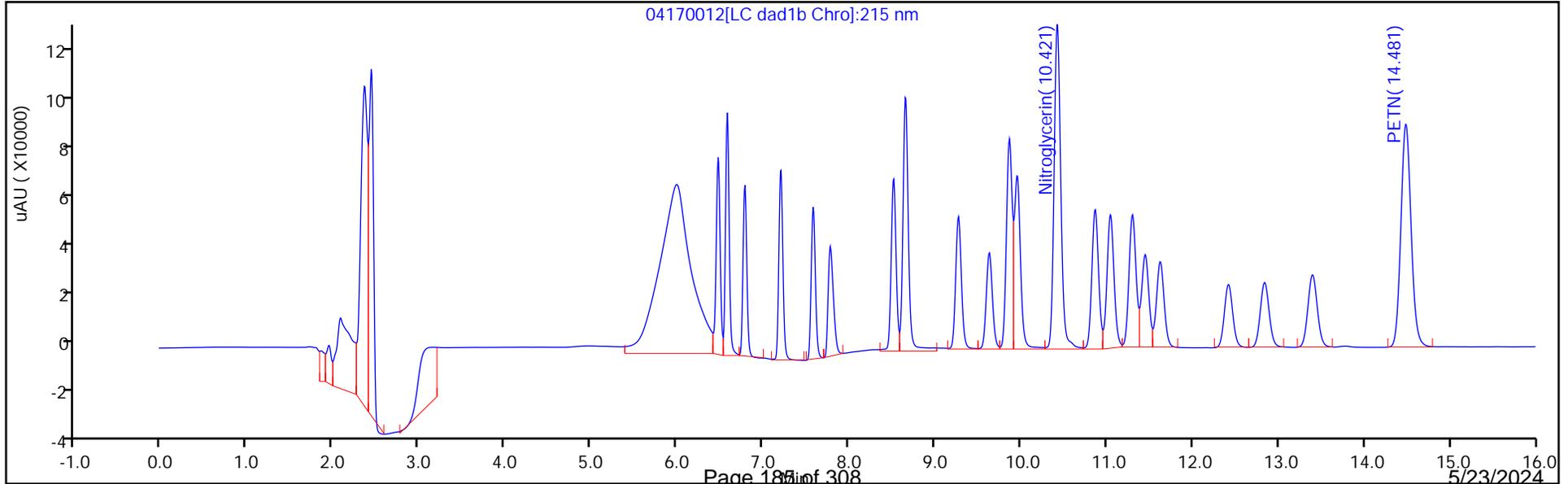
Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Eurofins Denver

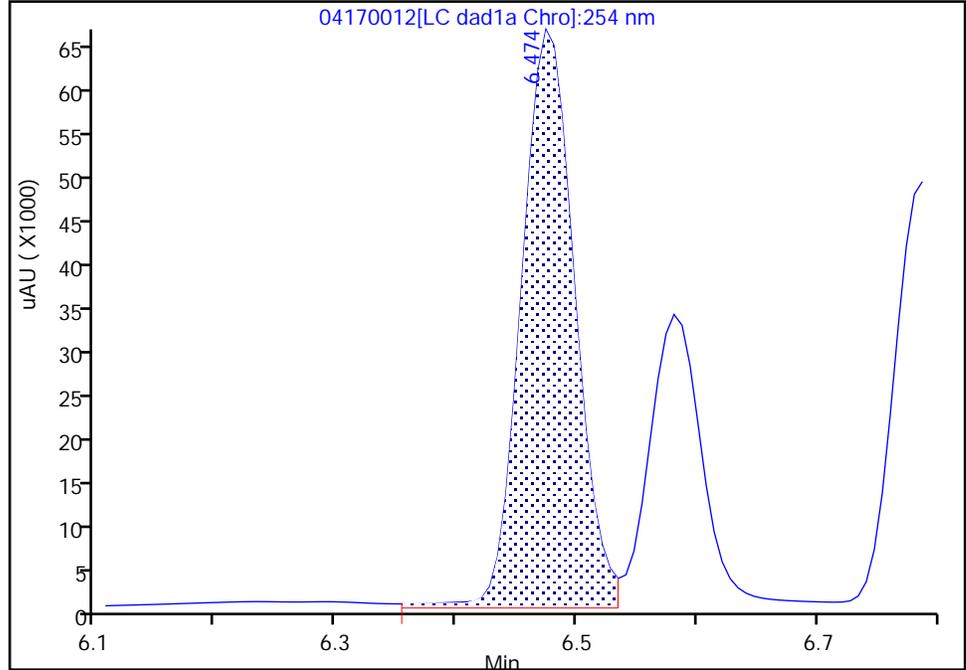
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170012.d
Injection Date: 17-Apr-2024 21:00:56 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 8
Client ID:
Operator ID: JZ/JG ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

3 TNX, CAS: 13980-04-6

Signal: 1

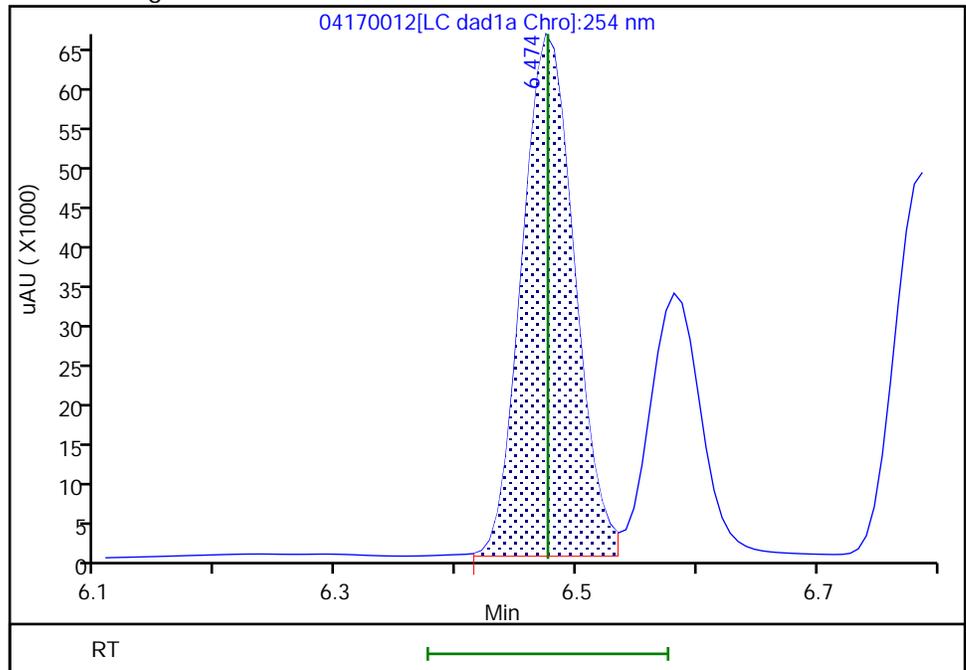
RT: 6.47
Area: 204461
Amount: 0.979758
Amount Units: ug/mL

Processing Integration Results



RT: 6.47
Area: 199537
Amount: 1.002738
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:13:07 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

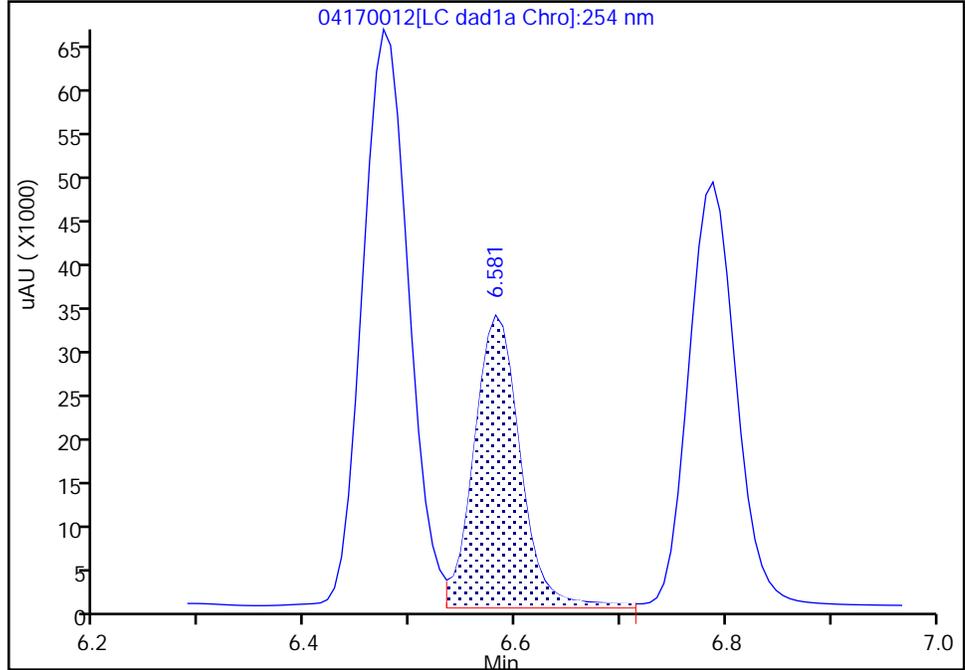
Data File:	\\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170012.d		
Injection Date:	17-Apr-2024 21:00:56	Instrument ID:	CHHPLC_X3
Lims ID:	IC INT/DMT 8		
Client ID:			
Operator ID:	JZ/JG	ALS Bottle#:	12 Worklist Smp#: 12
Injection Vol:	100.0 ul	Dil. Factor:	1.0000
Method:	8330_X3	Limit Group:	GCSV - 8330
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector:	LC DAD1B, 254 nm

4 HMX, CAS: 2691-41-0

Signal: 1

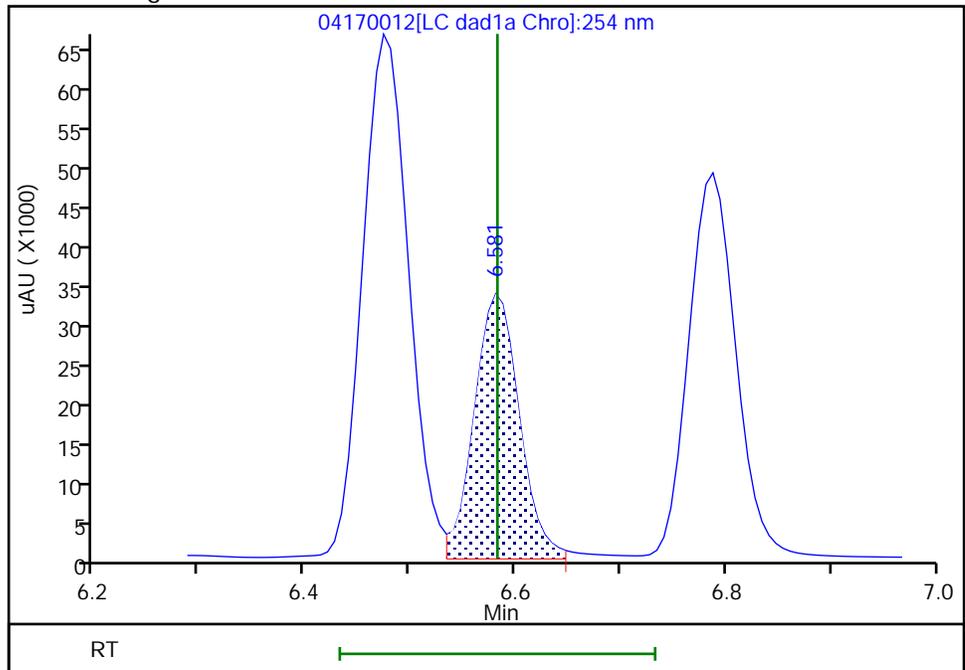
RT: 6.58
 Area: 102131
 Amount: 0.970072
 Amount Units: ug/mL

Processing Integration Results



RT: 6.58
 Area: 97787
 Amount: 1.023479
 Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:13:09 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

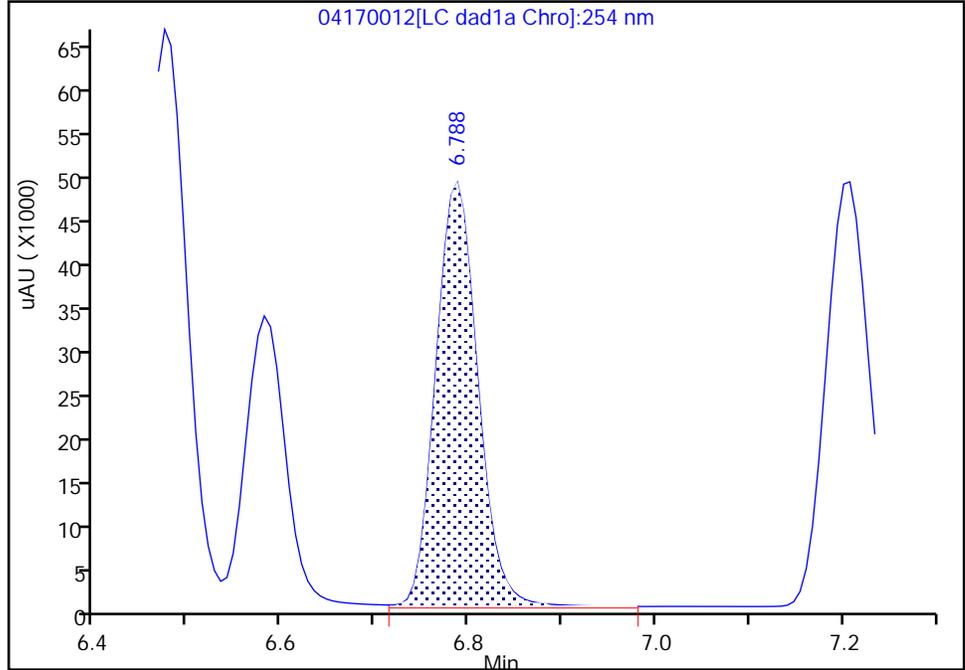
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170012.d
Injection Date: 17-Apr-2024 21:00:56 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 8
Client ID:
Operator ID: JZ/JG ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

6 DNX, CAS: 80251-29-2

Signal: 1

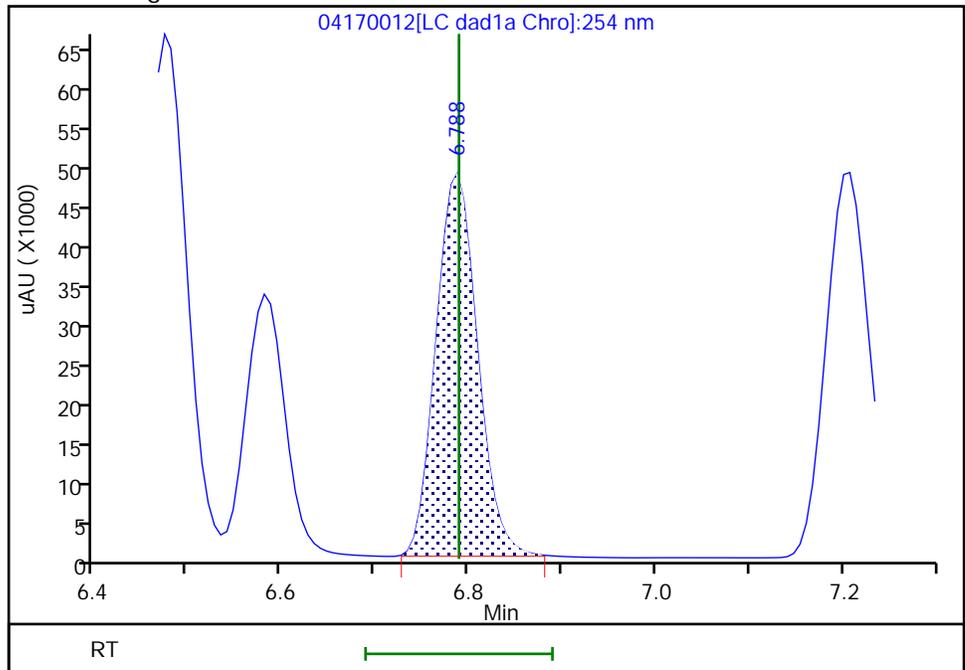
RT: 6.79
Area: 153377
Amount: 0.990791
Amount Units: ug/mL

Processing Integration Results



RT: 6.79
Area: 146952
Amount: 0.997911
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:13:11 -06:00:00 (UTC)

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170013.D
 Lims ID: IC INT/DMT 7
 Client ID:
 Sample Type: IC Calib Level: 7
 Inject. Date: 17-Apr-2024 21:23:54 ALS Bottle#: 13 Worklist Smp#: 13
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: IC INT/DMT 7
 Operator ID: JZ/JG Instrument ID: CHHPLC_X3
 Sublist: chrom-8330_X3*sub27
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 18-Apr-2024 11:59:24 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1675

First Level Reviewer: LV5D Date: 18-Apr-2024 11:14:37

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
3 TNX	1	6.476	6.476	0.000	141333	0.7028	0.7102	M
4 HMX	1	6.582	6.583	-0.001	67408	0.7000	0.7055	M
6 DNX	1	6.789	6.789	0.000	103834	0.7014	0.7051	M
7 MNX	1	7.202	7.203	-0.001	113678	0.8183	0.8316	
8 RDX	1	7.582	7.583	-0.001	74871	0.7000	0.6759	
9 2,4,6-Trinitrophenol	1	7.789	7.816	-0.027	55934	0.7000	0.7051	
\$ 10 1,2-Dinitrobenzene	1	8.516	8.516	0.000	92511	0.7000	0.7021	
11 1,3,5-Trinitrobenzene	1	8.656	8.656	0.000	151045	0.7000	0.6778	
12 1,3-Dinitrobenzene	1	9.276	9.276	0.000	209122	0.7000	0.6984	
13 Nitrobenzene	1	9.629	9.636	-0.007	136899	0.7000	0.6973	
14 3,5-Dinitroaniline	1	9.869	9.876	-0.007	153531	0.7000	0.6958	
15 Tetryl	1	9.956	9.963	-0.007	127375	0.7000	0.7014	
16 Nitroglycerin	2	10.422	10.429	-0.007	467214	7.00	7.03	
17 2,4,6-Trinitrotoluene	1	10.862	10.869	-0.007	150301	0.7000	0.6985	
18 4-Amino-2,6-dinitrotoluene	1	11.042	11.049	-0.007	103016	0.7000	0.6870	
19 2-Amino-4,6-dinitrotoluene	1	11.302	11.309	-0.007	140054	0.7000	0.7009	
20 2,6-Dinitrotoluene	1	11.449	11.449	0.000	100540	0.7000	0.6843	
21 2,4-Dinitrotoluene	1	11.622	11.629	-0.007	202952	0.7000	0.6954	
22 o-Nitrotoluene	1	12.416	12.423	-0.007	88069	0.7000	0.6811	
23 p-Nitrotoluene	1	12.842	12.843	-0.001	75957	0.7000	0.6734	
24 m-Nitrotoluene	1	13.396	13.403	-0.007	96036	0.7000	0.6666	
25 PETN	2	14.482	14.483	-0.001	495856	7.00	6.89	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

8330 DMT_00016

Amount Added: 35.00

Units: uL

8330IntermStk_00080

Amount Added: 70.00

Units: uL

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170013.d

Injection Date: 17-Apr-2024 21:23:54

Instrument ID: CHHPLC_X3

Operator ID: JZ/JG

Lims ID: IC INT/DMT 7

Worklist Smp#: 13

Client ID:

Injection Vol: 100.0 ul

Dil. Factor: 1.0000

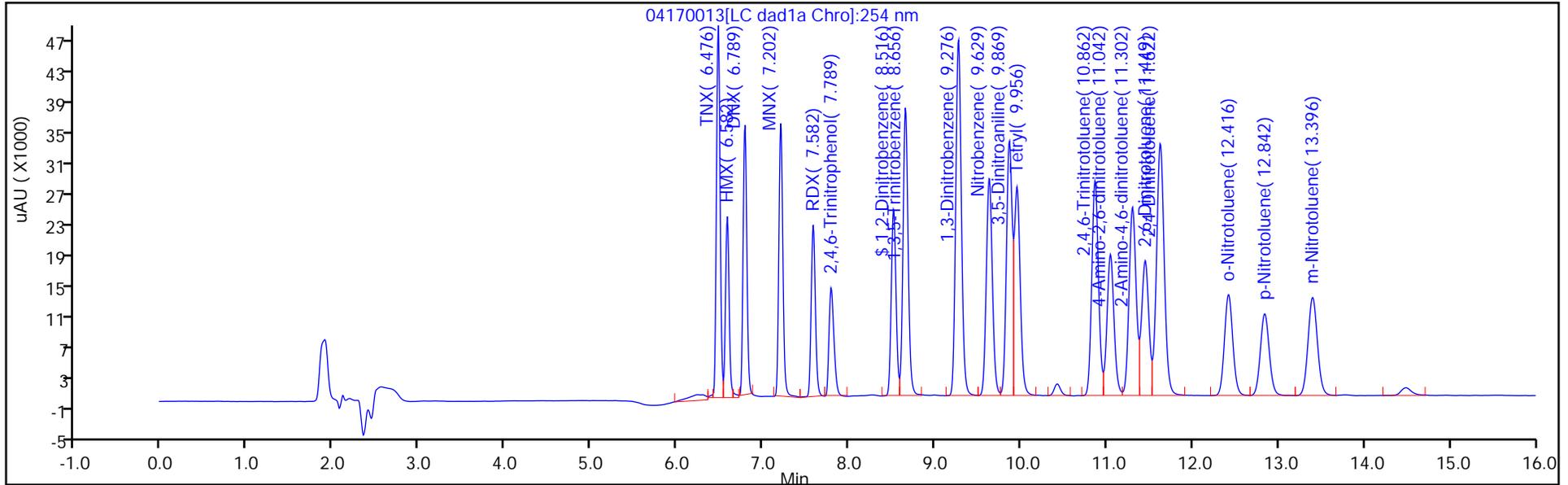
ALS Bottle#: 13

Method: 8330_X3

Limit Group: GCSV - 8330

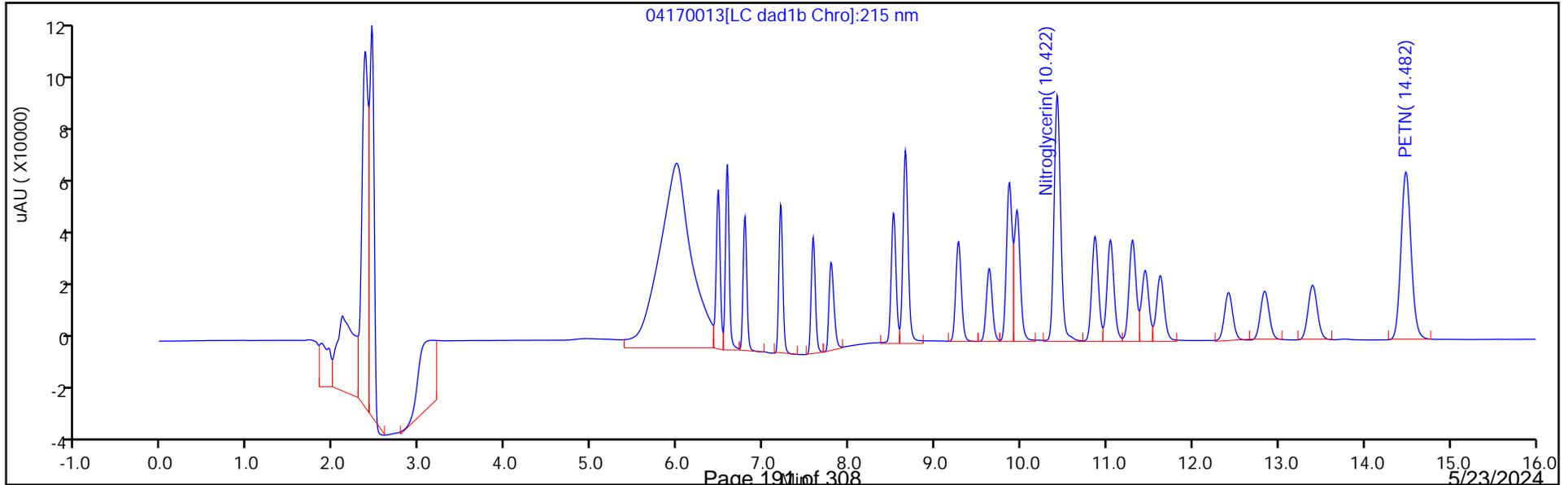
Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Eurofins Denver

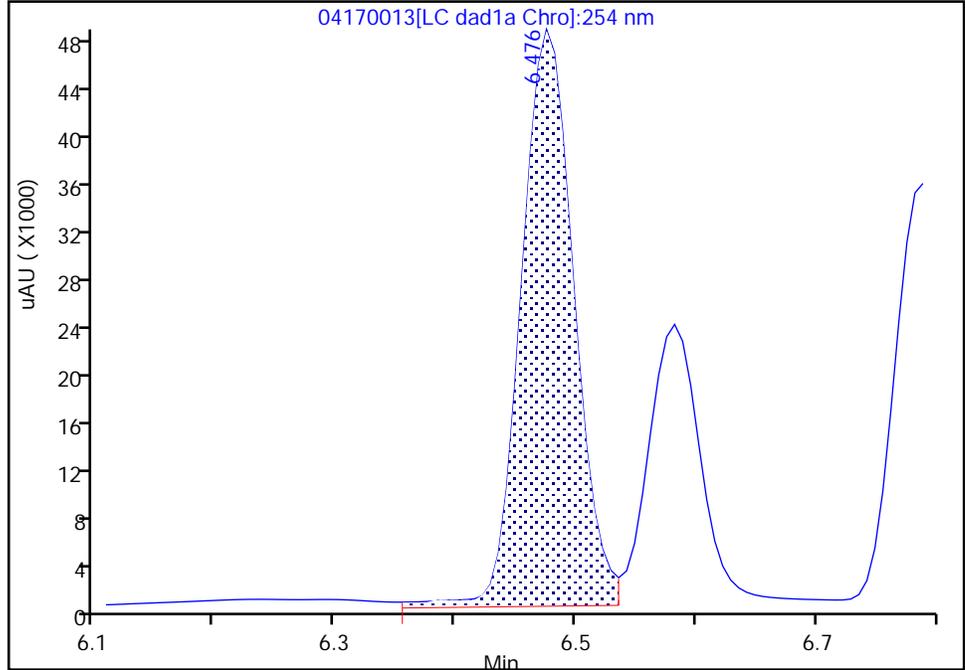
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170013.d
Injection Date: 17-Apr-2024 21:23:54 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 7
Client ID:
Operator ID: JZ/JG ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

3 TNX, CAS: 13980-04-6

Signal: 1

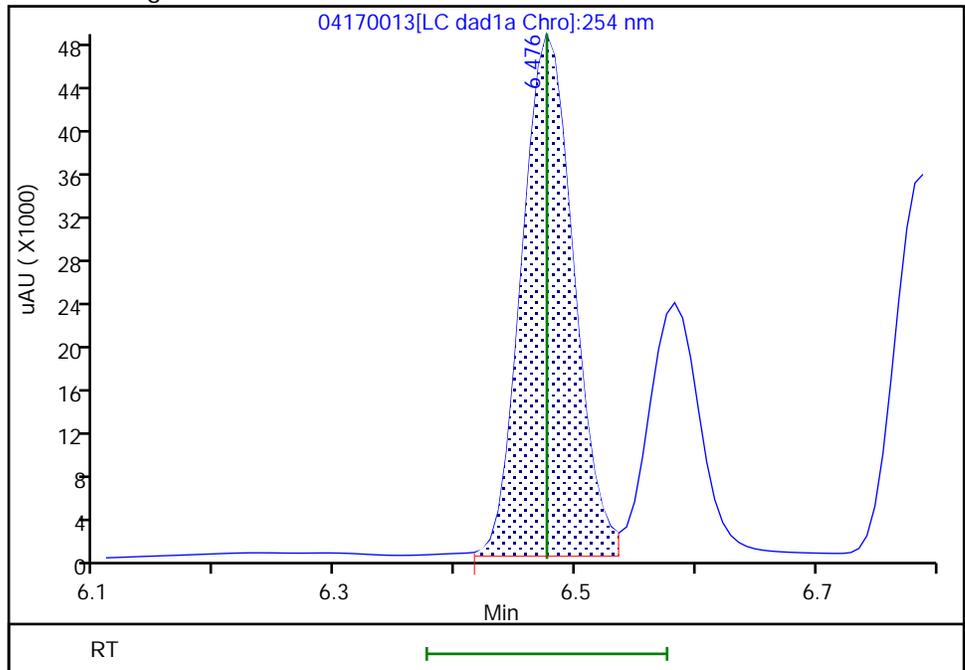
RT: 6.48
Area: 146464
Amount: 0.704521
Amount Units: ug/mL

Processing Integration Results



RT: 6.48
Area: 141333
Amount: 0.710244
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:13:45 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

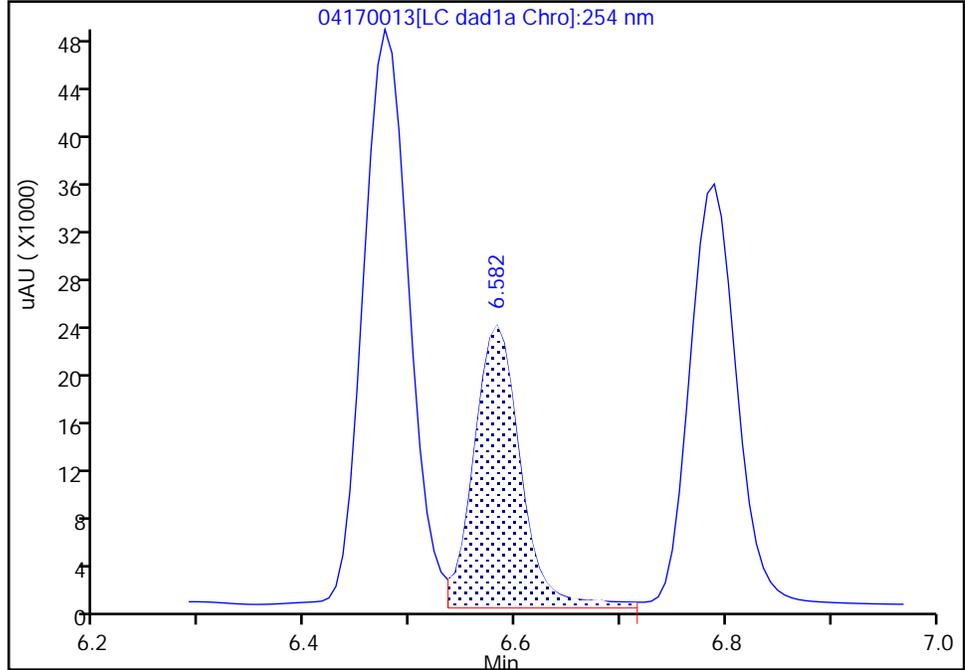
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170013.d
Injection Date: 17-Apr-2024 21:23:54 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 7
Client ID:
Operator ID: JZ/JG ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

4 HMX, CAS: 2691-41-0

Signal: 1

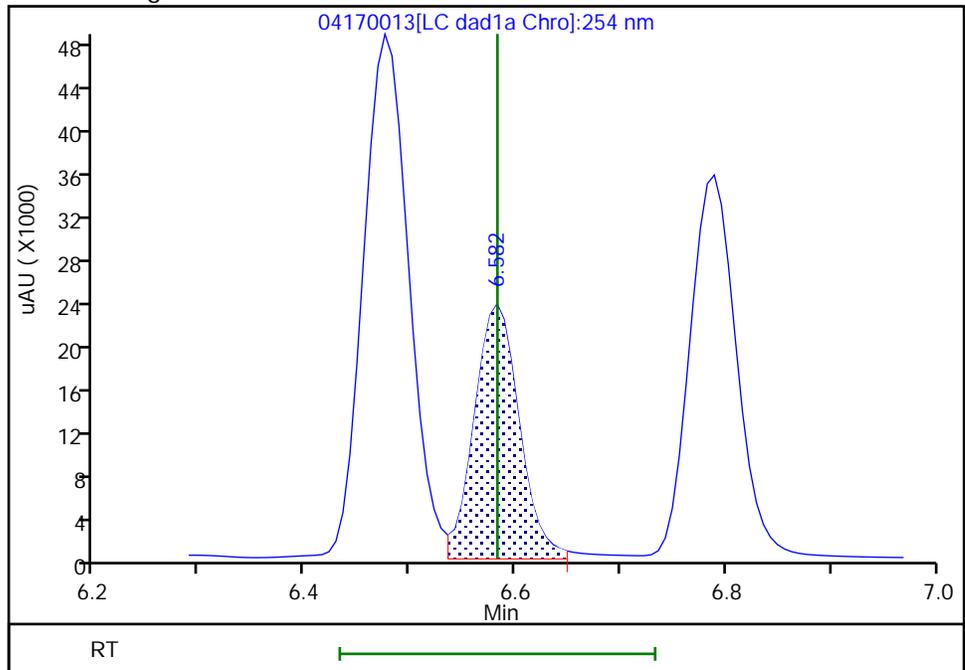
RT: 6.58
Area: 71695
Amount: 0.685513
Amount Units: ug/mL

Processing Integration Results



RT: 6.58
Area: 67408
Amount: 0.705520
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:13:46 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

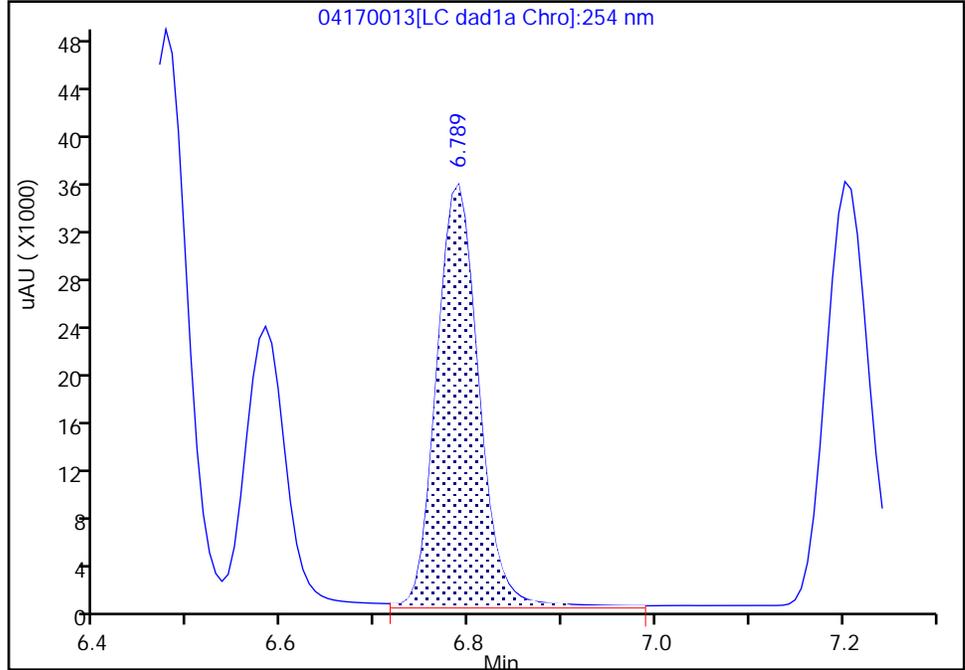
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170013.d
Injection Date: 17-Apr-2024 21:23:54 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 7
Client ID:
Operator ID: JZ/JG ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

6 DNX, CAS: 80251-29-2

Signal: 1

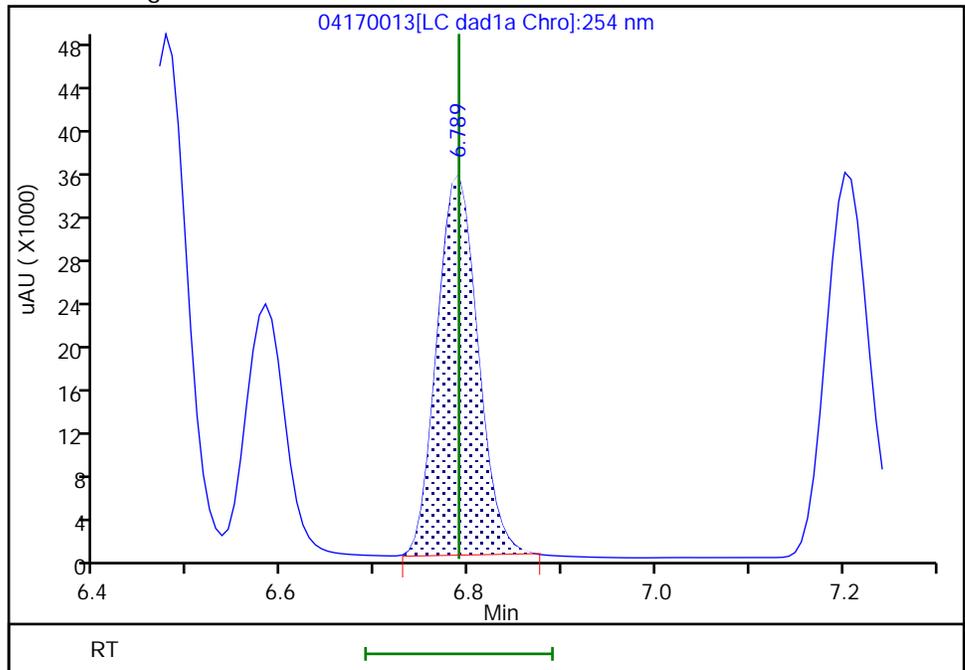
RT: 6.79
Area: 109725
Amount: 0.724468
Amount Units: ug/mL

Processing Integration Results



RT: 6.79
Area: 103834
Amount: 0.705108
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:13:50 -06:00:00 (UTC)

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170014.D
 Lims ID: IC INT/DMT 6
 Client ID:
 Sample Type: IC Calib Level: 6
 Inject. Date: 17-Apr-2024 21:46:50 ALS Bottle#: 14 Worklist Smp#: 14
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: IC INT/DMT 6
 Operator ID: JZ/JG Instrument ID: CHHPLC_X3
 Sublist: chrom-8330_X3*sub27
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 18-Apr-2024 11:59:25 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1675

First Level Reviewer: LV5D Date: 18-Apr-2024 11:15:01

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
3 TNX	1	6.479	6.476	0.003	78789	0.4016	0.3959	M
4 HMX	1	6.586	6.583	0.003	38101	0.4000	0.3988	M
6 DNx	1	6.786	6.789	-0.003	58701	0.4008	0.3986	M
7 MNx	1	7.206	7.203	0.003	64510	0.4676	0.4719	
8 RDX	1	7.586	7.583	0.003	42747	0.4000	0.3859	
9 2,4,6-Trinitrophenol	1	7.806	7.816	-0.010	31644	0.4000	0.3989	
\$ 10 1,2-Dinitrobenzene	1	8.519	8.516	0.003	52999	0.4000	0.4019	
11 1,3,5-Trinitrobenzene	1	8.659	8.656	0.003	86362	0.4000	0.3875	
12 1,3-Dinitrobenzene	1	9.279	9.276	0.003	119137	0.4000	0.3979	
13 Nitrobenzene	1	9.639	9.636	0.003	77471	0.4000	0.3946	
14 3,5-Dinitroaniline	1	9.872	9.876	-0.004	86047	0.4000	0.3904	
15 Tetryl	1	9.959	9.963	-0.004	74126	0.4000	0.4082	
16 Nitroglycerin	2	10.432	10.429	0.003	266924	4.00	4.02	
17 2,4,6-Trinitrotoluene	1	10.872	10.869	0.003	85495	0.4000	0.3973	
18 4-Amino-2,6-dinitrotoluene	1	11.052	11.049	0.003	59155	0.4000	0.3945	
19 2-Amino-4,6-dinitrotoluene	1	11.306	11.309	-0.003	78856	0.4000	0.3947	
20 2,6-Dinitrotoluene	1	11.452	11.449	0.003	58947	0.4000	0.4012	
21 2,4-Dinitrotoluene	1	11.632	11.629	0.003	115355	0.4000	0.3953	
22 o-Nitrotoluene	1	12.426	12.423	0.003	50092	0.4000	0.3874	
23 p-Nitrotoluene	1	12.846	12.843	0.003	42973	0.4000	0.3810	
24 m-Nitrotoluene	1	13.406	13.403	0.003	54437	0.4000	0.3779	
25 PETN	2	14.492	14.483	0.009	282889	4.00	3.93	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

8330IntermStk_00080

Amount Added: 40.00

Units: uL

8330 DMT_00016

Amount Added: 20.00

Units: uL

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170014.d

Injection Date: 17-Apr-2024 21:46:50

Instrument ID: CHHPLC_X3

Operator ID: JZ/JG

Lims ID: IC INT/DMT 6

Worklist Smp#: 14

Client ID:

Injection Vol: 100.0 ul

Dil. Factor: 1.0000

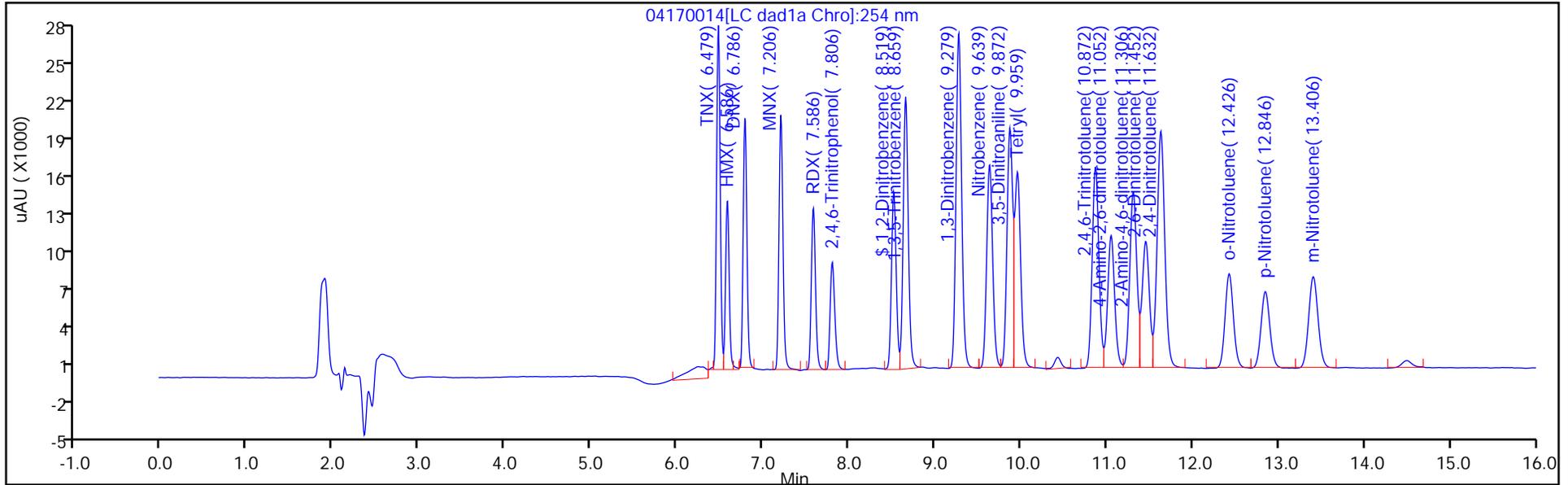
ALS Bottle#: 14

Method: 8330_X3

Limit Group: GCSV - 8330

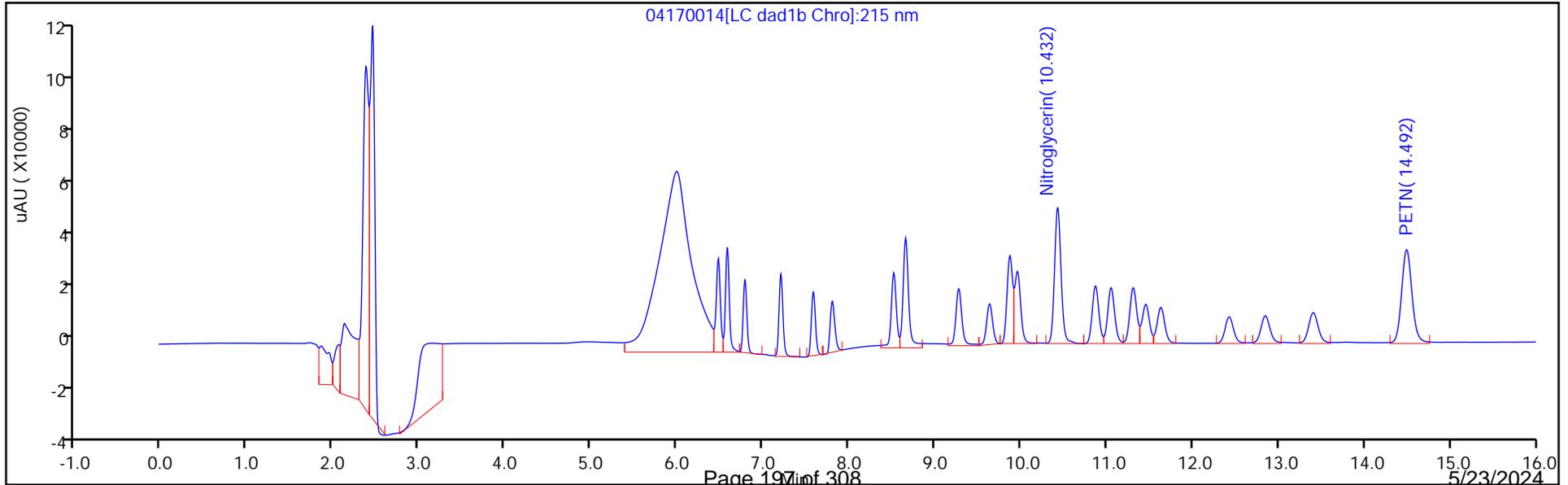
Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Eurofins Denver

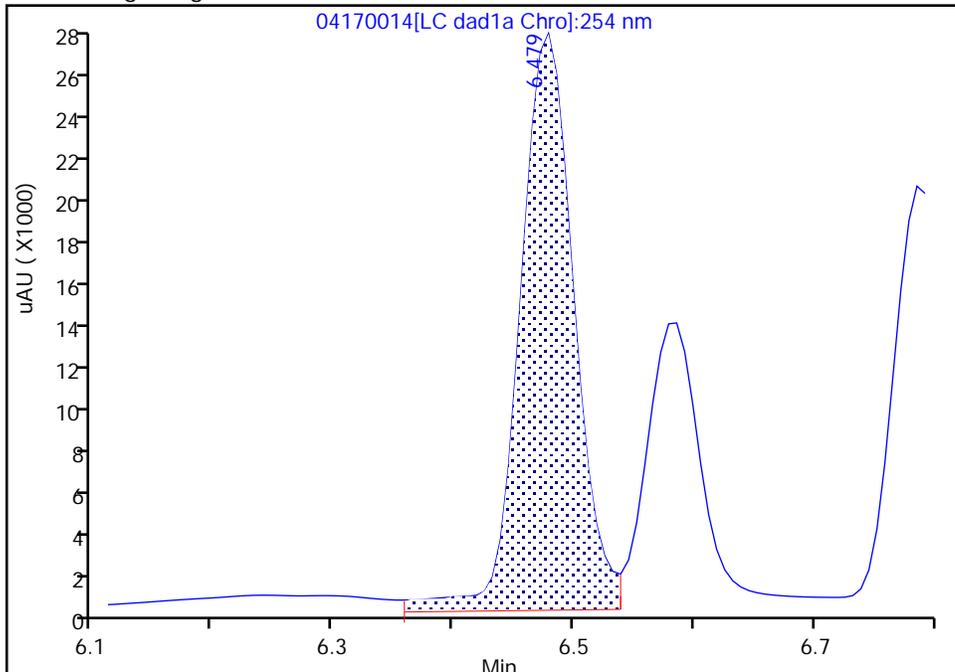
Data File:	\\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170014.d		
Injection Date:	17-Apr-2024 21:46:50	Instrument ID:	CHHPLC_X3
Lims ID:	IC INT/DMT 6		
Client ID:			
Operator ID:	JZ/JG	ALS Bottle#:	14
Injection Vol:	100.0 ul	Dil. Factor:	1.0000
Method:	8330_X3	Limit Group:	GCSV - 8330
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector:	LC DAD1B, 254 nm
		Worklist Smp#:	14

3 TNX, CAS: 13980-04-6

Signal: 1

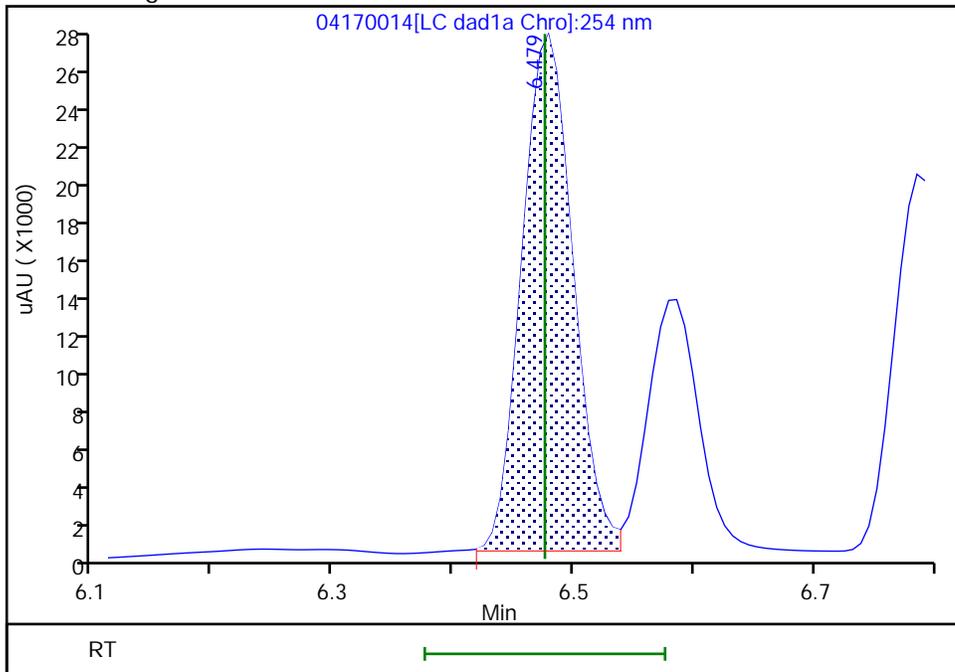
RT: 6.48
 Area: 85027
 Amount: 0.410599
 Amount Units: ug/mL

Processing Integration Results



RT: 6.48
 Area: 78789
 Amount: 0.395940
 Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:14:54 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

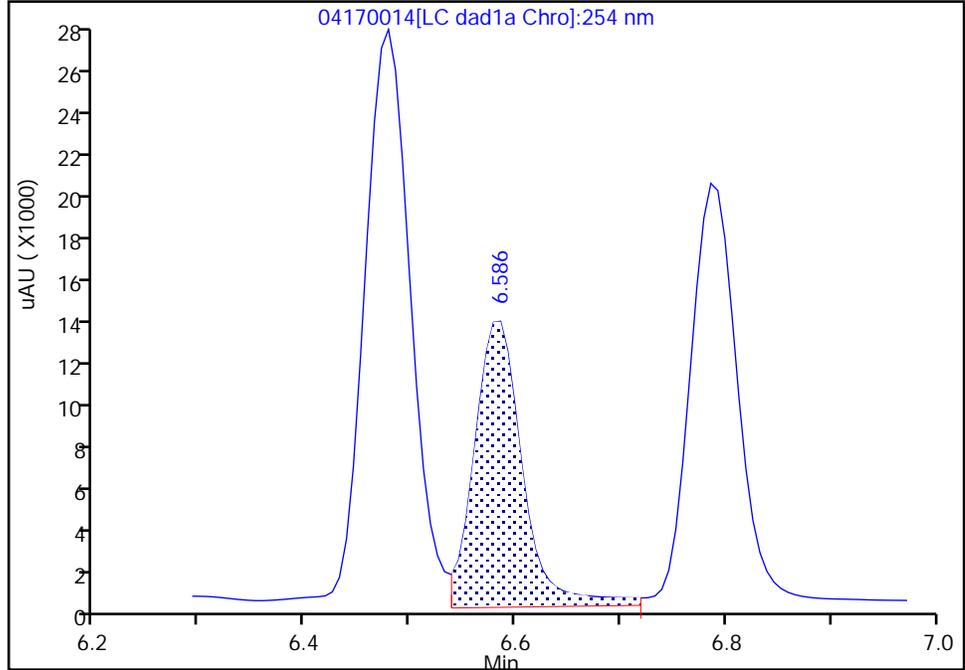
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170014.d
Injection Date: 17-Apr-2024 21:46:50 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 6
Client ID:
Operator ID: JZ/JG ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

4 HMX, CAS: 2691-41-0

Signal: 1

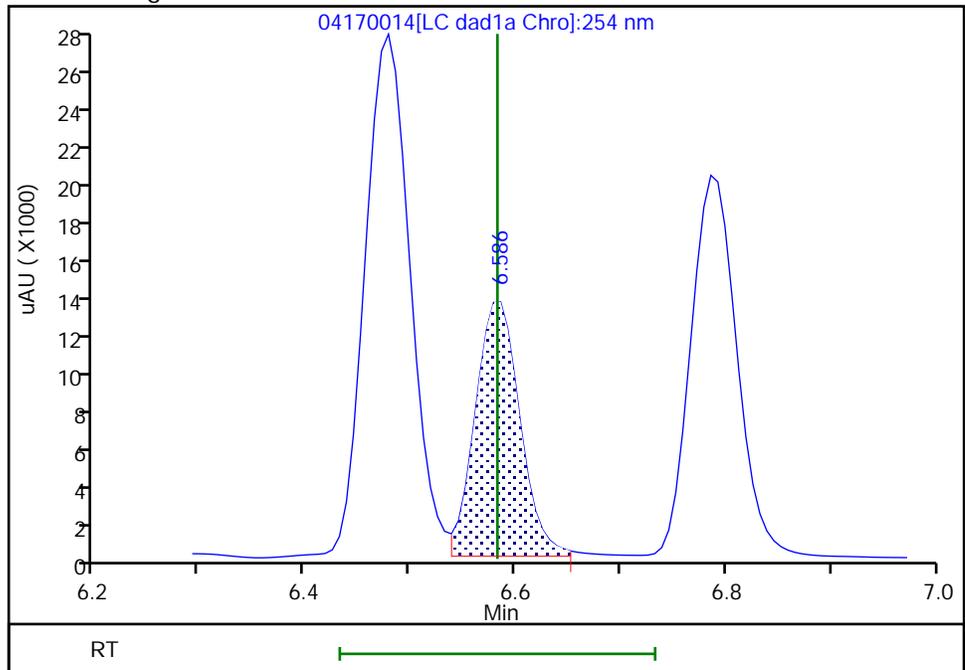
RT: 6.59
Area: 42787
Amount: 0.411788
Amount Units: ug/mL

Processing Integration Results



RT: 6.59
Area: 38101
Amount: 0.398781
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:14:55 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

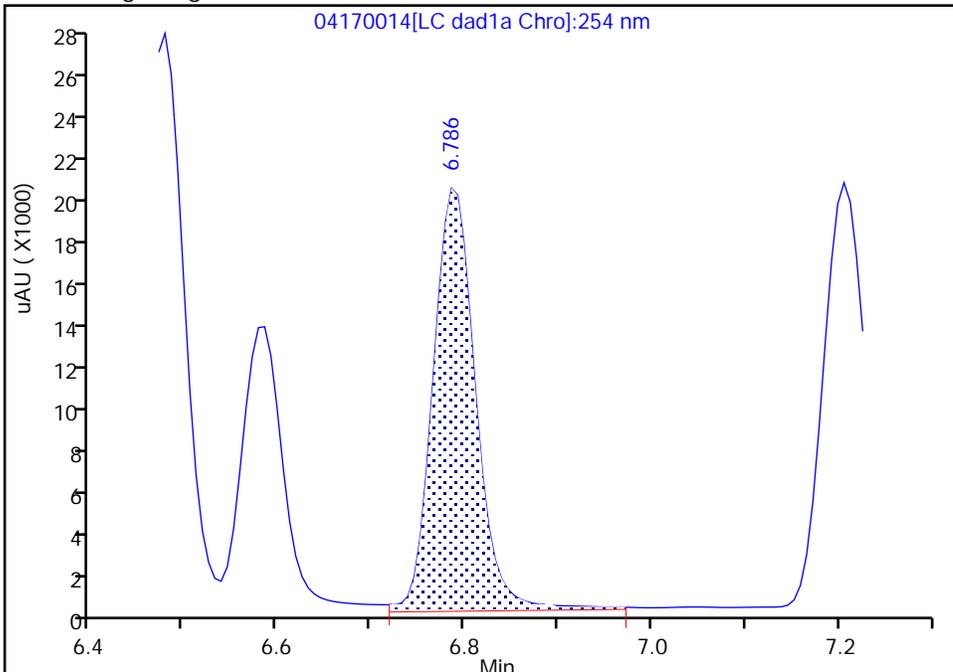
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170014.d
Injection Date: 17-Apr-2024 21:46:50 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 6
Client ID:
Operator ID: JZ/JG ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

6 DNX, CAS: 80251-29-2

Signal: 1

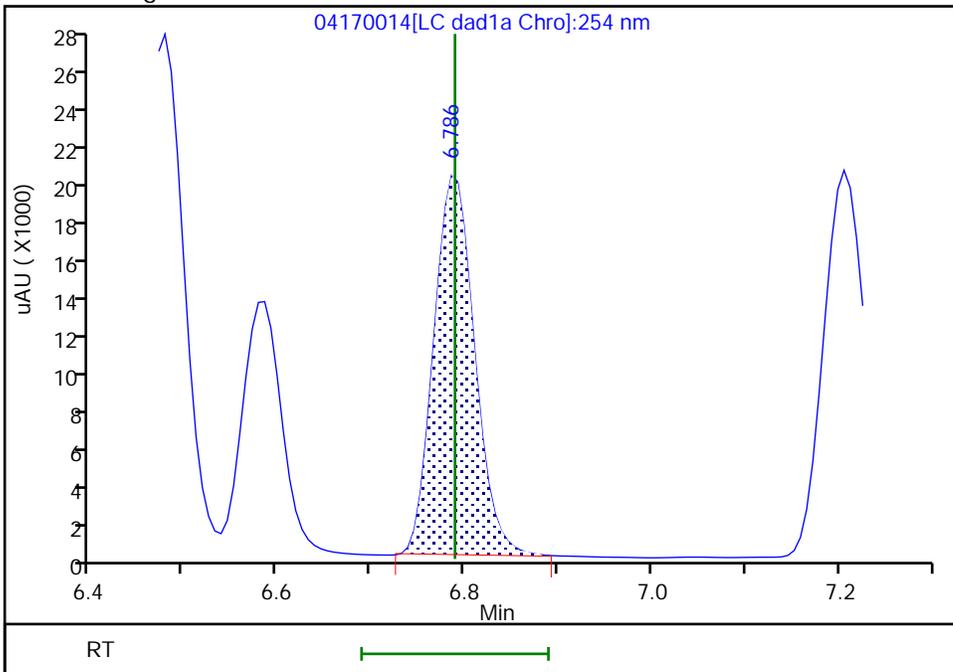
RT: 6.79
Area: 62648
Amount: 0.406964
Amount Units: ug/mL

Processing Integration Results



RT: 6.79
Area: 58701
Amount: 0.398623
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:14:58 -06:00:00 (UTC)

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170015.D
 Lims ID: IC INT/DMT 5
 Client ID:
 Sample Type: IC Calib Level: 5
 Inject. Date: 17-Apr-2024 22:09:45 ALS Bottle#: 15 Worklist Smp#: 15
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: IC INT/DMT 5
 Operator ID: JZ/JG Instrument ID: CHHPLC_X3
 Sublist: chrom-8330_X3*sub27
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 18-Apr-2024 11:59:26 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1675

First Level Reviewer: LV5D Date: 18-Apr-2024 11:15:36

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
3 TNX	1	6.476	6.476	0.000	49234	0.2510	0.2474	M
4 HMX	1	6.582	6.583	-0.001	23583	0.2500	0.2468	M
6 DNX	1	6.789	6.789	0.000	36872	0.2505	0.2504	M
7 MNX	1	7.209	7.203	0.006	39930	0.2923	0.2921	
8 RDX	1	7.582	7.583	-0.001	26844	0.2500	0.2423	
9 2,4,6-Trinitrophenol	1	7.809	7.816	-0.007	19748	0.2500	0.2489	
\$ 10 1,2-Dinitrobenzene	1	8.522	8.516	0.006	32787	0.2500	0.2484	
11 1,3,5-Trinitrobenzene	1	8.656	8.656	0.000	54073	0.2500	0.2426	
12 1,3-Dinitrobenzene	1	9.276	9.276	0.000	74190	0.2500	0.2478	
13 Nitrobenzene	1	9.636	9.636	0.000	47641	0.2500	0.2427	
14 3,5-Dinitroaniline	1	9.876	9.876	0.000	54841	0.2500	0.2492	
15 Tetryl	1	9.962	9.963	-0.001	45082	0.2500	0.2483	
16 Nitroglycerin	2	10.429	10.429	0.000	167486	2.50	2.52	
17 2,4,6-Trinitrotoluene	1	10.869	10.869	0.000	53593	0.2500	0.2490	
18 4-Amino-2,6-dinitrotoluene	1	11.049	11.049	0.000	36831	0.2500	0.2456	
19 2-Amino-4,6-dinitrotoluene	1	11.309	11.309	0.000	49951	0.2500	0.2500	
20 2,6-Dinitrotoluene	1	11.456	11.449	0.007	35939	0.2500	0.2446	
21 2,4-Dinitrotoluene	1	11.629	11.629	0.000	72314	0.2500	0.2478	
22 o-Nitrotoluene	1	12.422	12.423	-0.001	31023	0.2500	0.2399	
23 p-Nitrotoluene	1	12.842	12.843	-0.001	26871	0.2500	0.2382	
24 m-Nitrotoluene	1	13.402	13.403	-0.001	33952	0.2500	0.2357	M
25 PETN	2	14.489	14.483	0.006	176891	2.50	2.46	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

8330IntermStk_00080

Amount Added: 25.00

Units: uL

8330 DMT_00016

Amount Added: 12.50

Units: uL

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170015.d

Injection Date: 17-Apr-2024 22:09:45

Instrument ID: CHHPLC_X3

Operator ID: JZ/JG

Lims ID: IC INT/DMT 5

Worklist Smp#: 15

Client ID:

Injection Vol: 100.0 ul

Dil. Factor: 1.0000

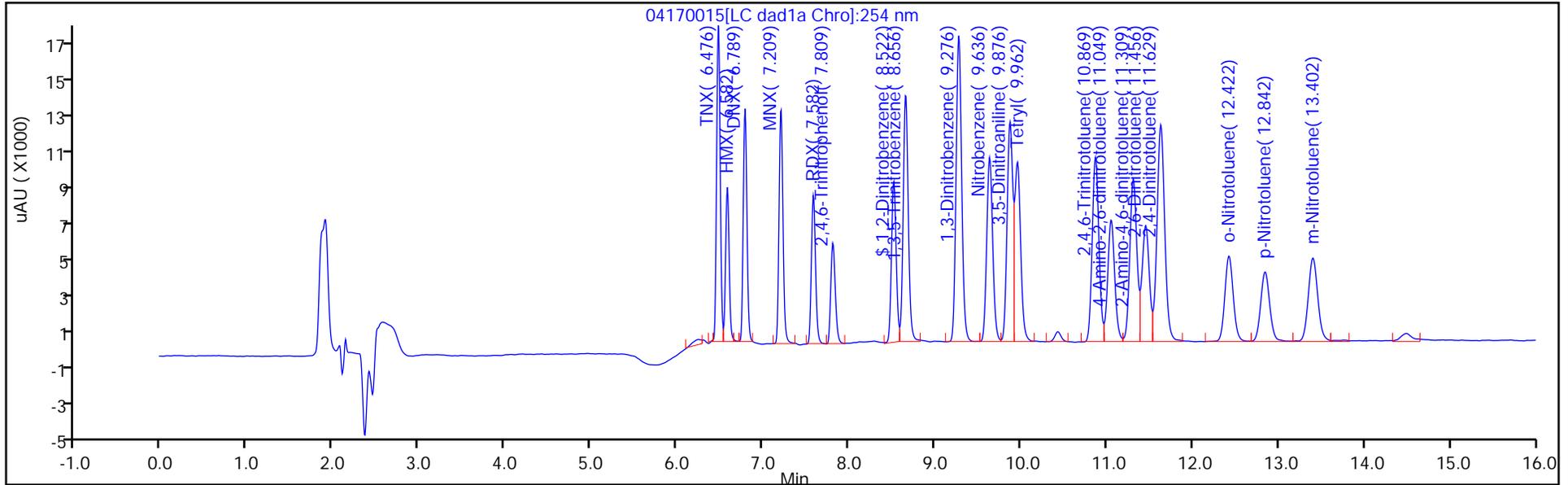
ALS Bottle#: 15

Method: 8330_X3

Limit Group: GCSV - 8330

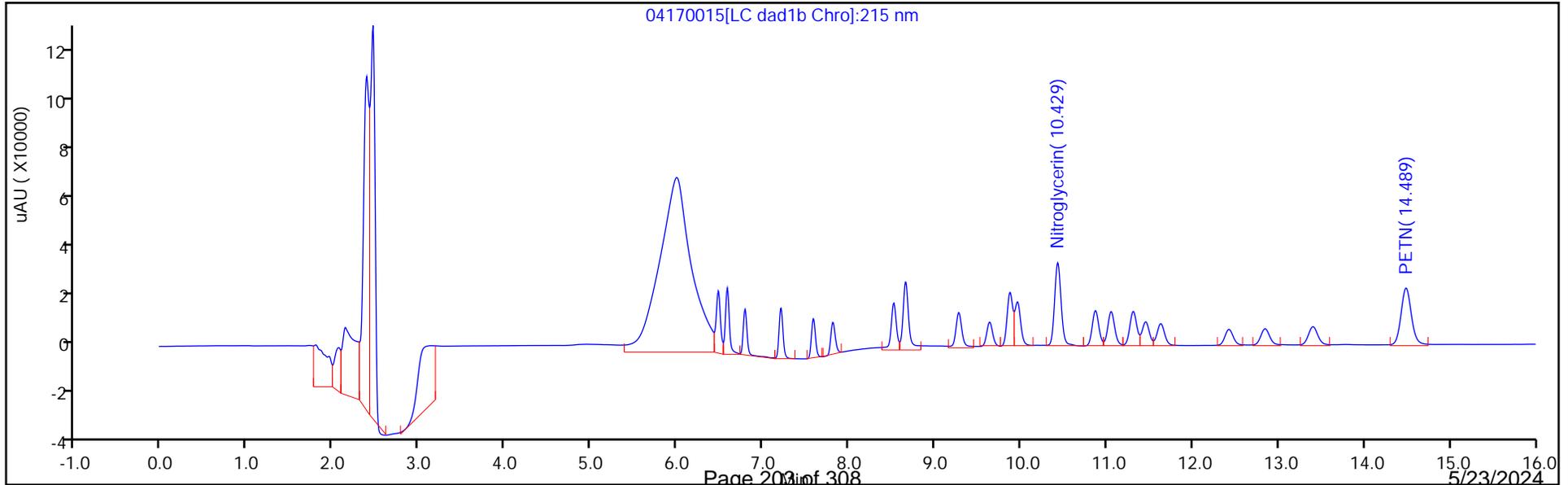
Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Eurofins Denver

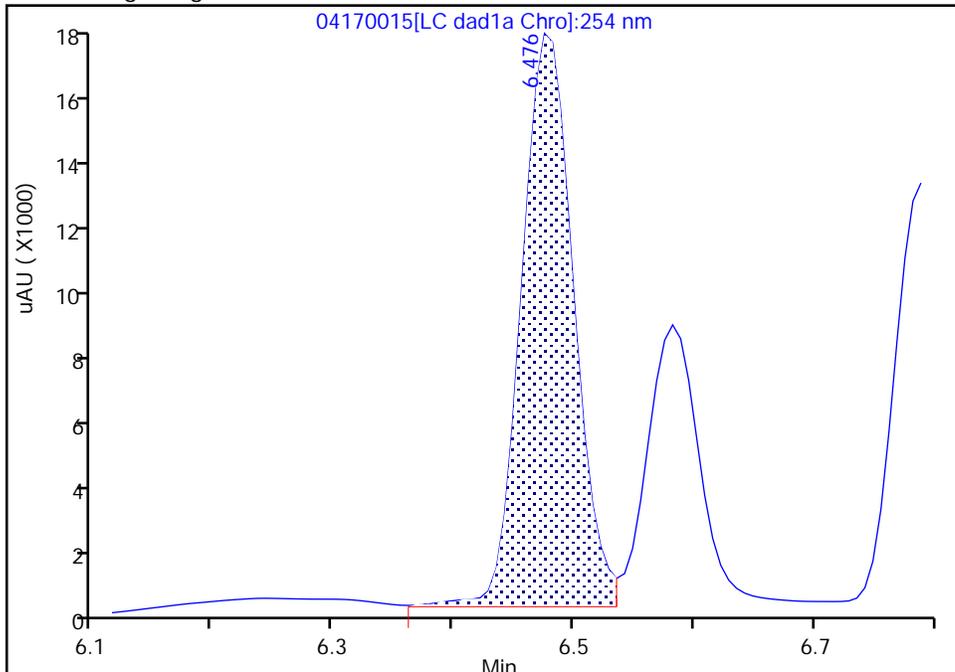
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170015.d
Injection Date: 17-Apr-2024 22:09:45 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 5
Client ID:
Operator ID: JZ/JG ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

3 TNX, CAS: 13980-04-6

Signal: 1

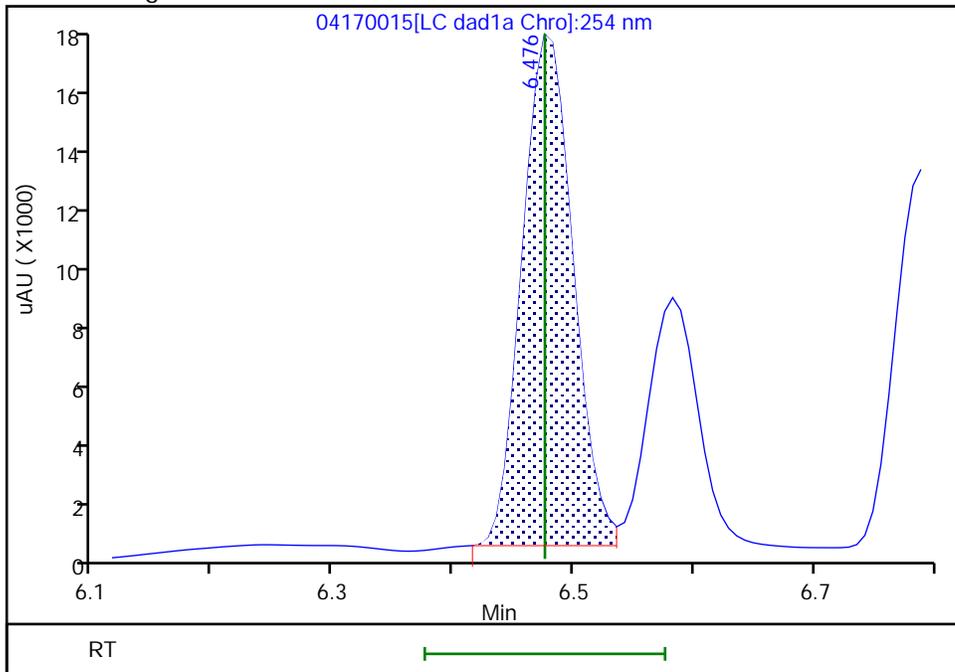
RT: 6.48
Area: 50637
Amount: 0.246583
Amount Units: ug/mL

Processing Integration Results



RT: 6.48
Area: 49234
Amount: 0.247417
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:15:14 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

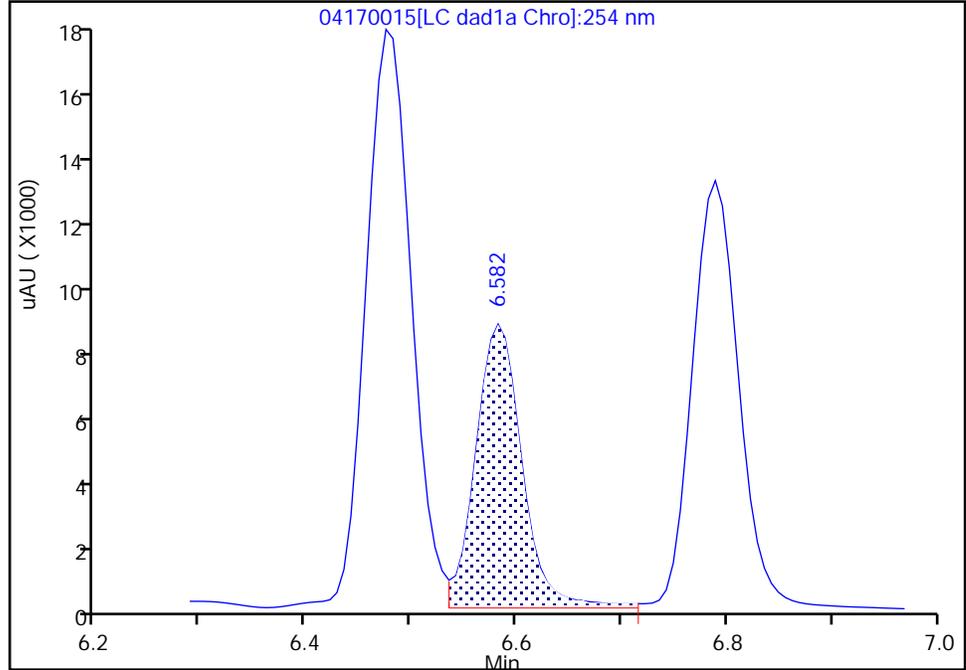
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170015.d
Injection Date: 17-Apr-2024 22:09:45 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 5
Client ID:
Operator ID: JZ/JG ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

4 HMX, CAS: 2691-41-0

Signal: 1

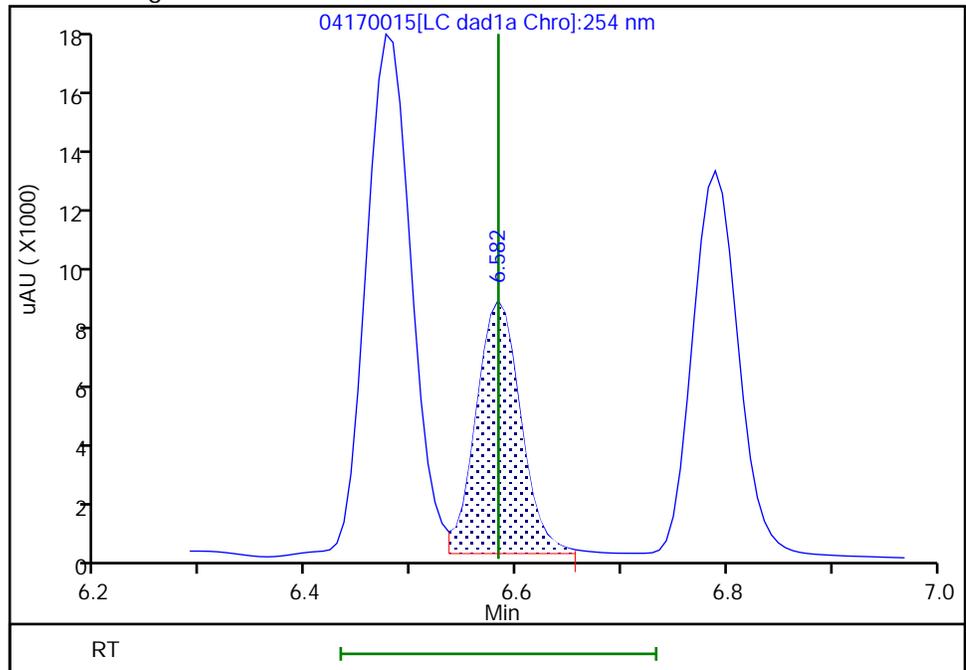
RT: 6.58
Area: 25313
Amount: 0.246706
Amount Units: ug/mL

Processing Integration Results



RT: 6.58
Area: 23583
Amount: 0.246829
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:15:15 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

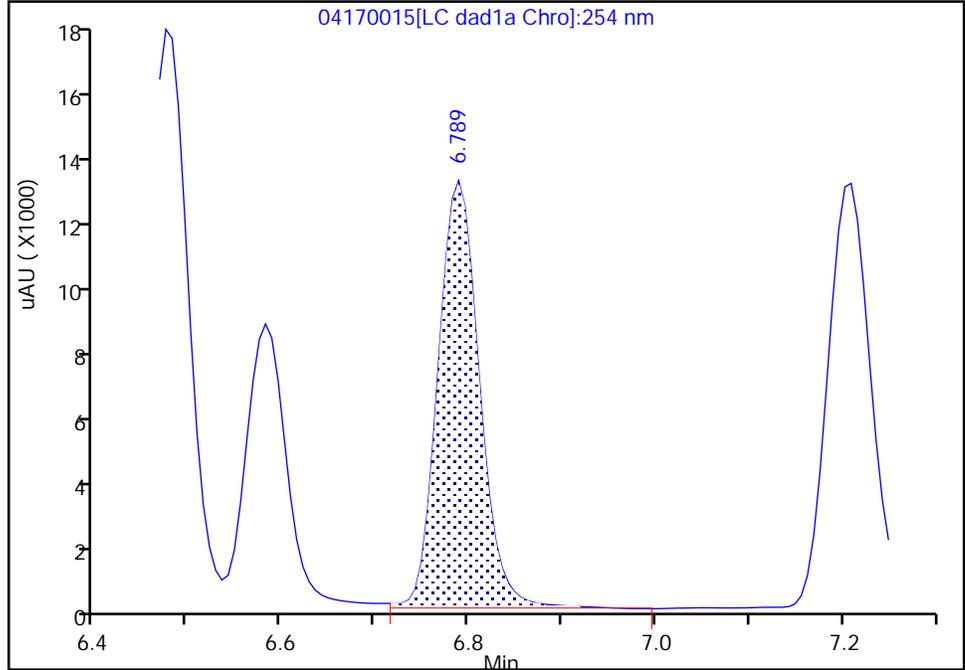
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170015.d
Injection Date: 17-Apr-2024 22:09:45 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 5
Client ID:
Operator ID: JZ/JG ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

6 DNX, CAS: 80251-29-2

Signal: 1

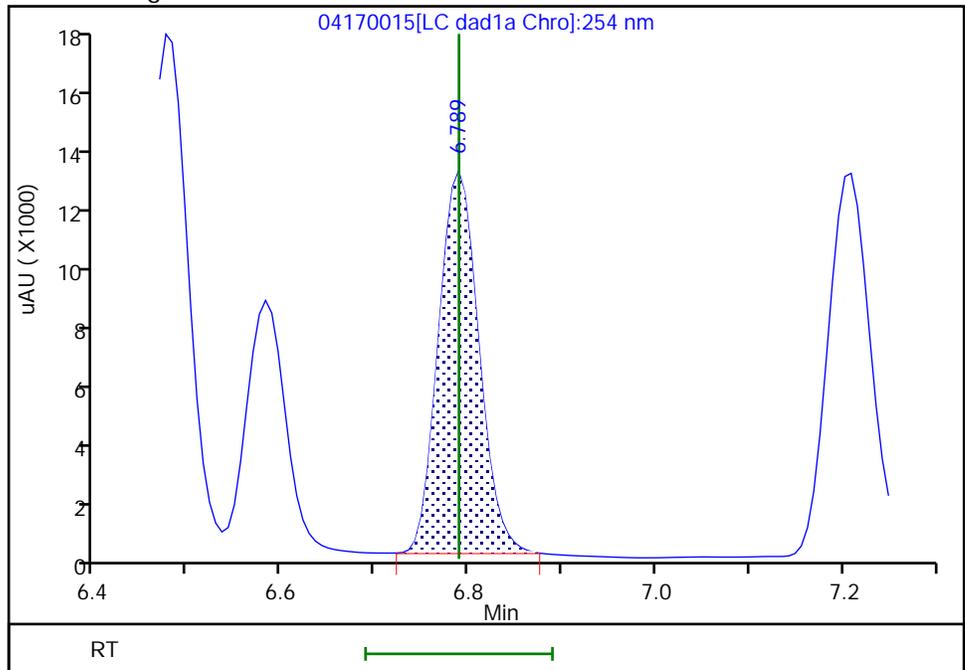
RT: 6.79
Area: 38558
Amount: 0.252268
Amount Units: ug/mL

Processing Integration Results



RT: 6.79
Area: 36872
Amount: 0.250388
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:15:17 -06:00:00 (UTC)

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Denver

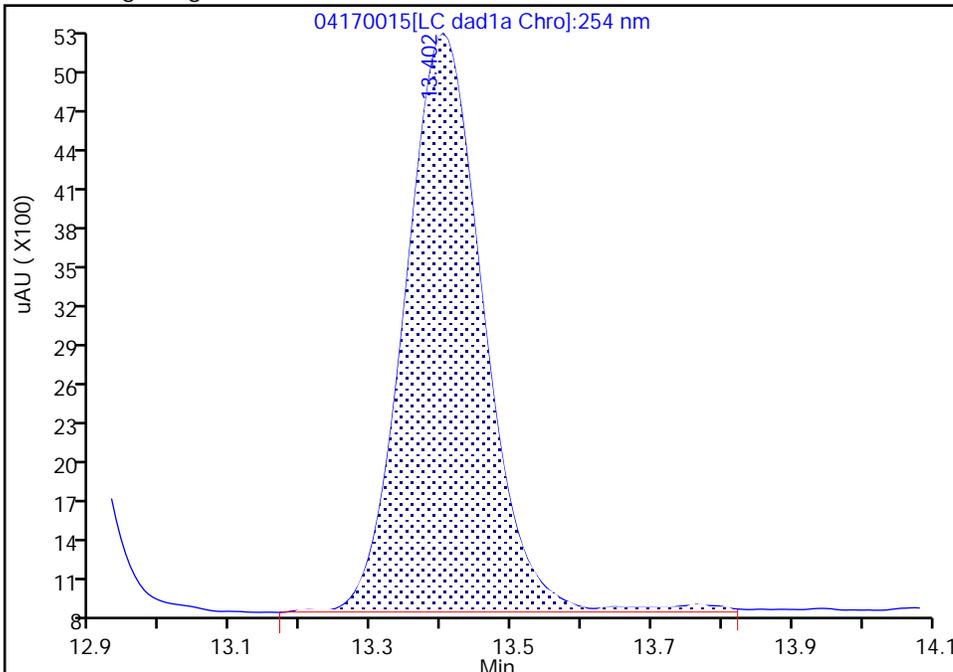
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170015.d
Injection Date: 17-Apr-2024 22:09:45 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 5
Client ID:
Operator ID: JZ/JG ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

24 m-Nitrotoluene, CAS: 99-08-1

Signal: 1

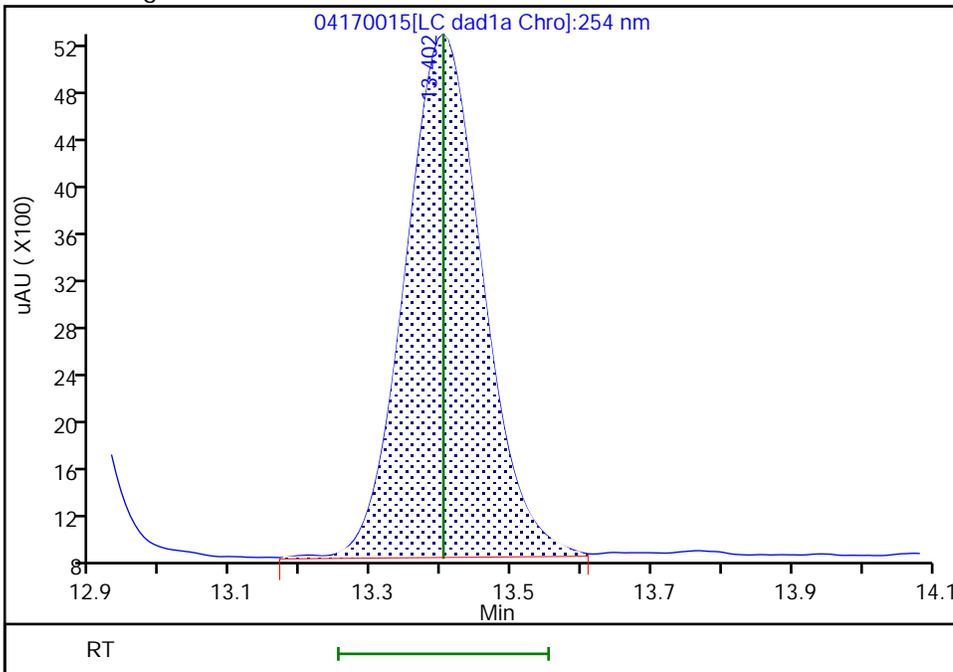
RT: 13.40
Area: 34432
Amount: 0.238653
Amount Units: ug/mL

Processing Integration Results



RT: 13.40
Area: 33952
Amount: 0.235674
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:15:33 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170016.D
 Lims ID: IC INT/DMT 4
 Client ID:
 Sample Type: IC Calib Level: 4
 Inject. Date: 17-Apr-2024 22:32:42 ALS Bottle#: 16 Worklist Smp#: 16
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: IC INT/DMT 4
 Operator ID: JZ/JG Instrument ID: CHHPLC_X3
 Sublist: chrom-8330_X3*sub27
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 18-Apr-2024 11:59:27 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1675

First Level Reviewer: LV5D Date: 18-Apr-2024 11:16:09

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
3 TNX	1	6.476	6.476	0.000	20006	0.1004	0.1005	M
4 HMX	1	6.583	6.583	0.000	9645	0.1000	0.1009	M
6 DNX	1	6.789	6.789	0.000	14834	0.1002	0.1007	M
7 MNX	1	7.203	7.203	0.000	15807	0.1169	0.1156	
8 RDX	1	7.583	7.583	0.000	11162	0.1000	0.1008	
9 2,4,6-Trinitrophenol	1	7.816	7.816	0.000	8016	0.1000	0.1011	
\$ 10 1,2-Dinitrobenzene	1	8.516	8.516	0.000	13450	0.1000	0.1015	
11 1,3,5-Trinitrobenzene	1	8.656	8.656	0.000	22129	0.1000	0.0993	
12 1,3-Dinitrobenzene	1	9.276	9.276	0.000	30359	0.1000	0.1014	
13 Nitrobenzene	1	9.636	9.636	0.000	20035	0.1000	0.1020	
14 3,5-Dinitroaniline	1	9.876	9.876	0.000	22651	0.1000	0.1036	
15 Tetryl	1	9.963	9.963	0.000	18238	0.1000	0.1004	
16 Nitroglycerin	2	10.429	10.429	0.000	71367	1.00	1.07	
17 2,4,6-Trinitrotoluene	1	10.869	10.869	0.000	21912	0.1000	0.1018	
18 4-Amino-2,6-dinitrotoluene	1	11.049	11.049	0.000	15344	0.1000	0.1023	
19 2-Amino-4,6-dinitrotoluene	1	11.309	11.309	0.000	20033	0.1000	0.1003	
20 2,6-Dinitrotoluene	1	11.449	11.449	0.000	15218	0.1000	0.1036	
21 2,4-Dinitrotoluene	1	11.629	11.629	0.000	29452	0.1000	0.1009	
22 o-Nitrotoluene	1	12.423	12.423	0.000	12977	0.1000	0.1004	
23 p-Nitrotoluene	1	12.843	12.843	0.000	11360	0.1000	0.1007	
24 m-Nitrotoluene	1	13.403	13.403	0.000	14207	0.1000	0.0986	
25 PETN	2	14.483	14.483	0.000	72600	1.00	1.01	M

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

8330IntermStk_00080

Amount Added: 10.00

Units: uL

8330 DMT_00016

Amount Added: 5.00

Units: uL

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170016.d

Injection Date: 17-Apr-2024 22:32:42

Instrument ID: CHHPLC_X3

Operator ID: JZ/JG

Lims ID: IC INT/DMT 4

Worklist Smp#: 16

Client ID:

Injection Vol: 100.0 ul

Dil. Factor: 1.0000

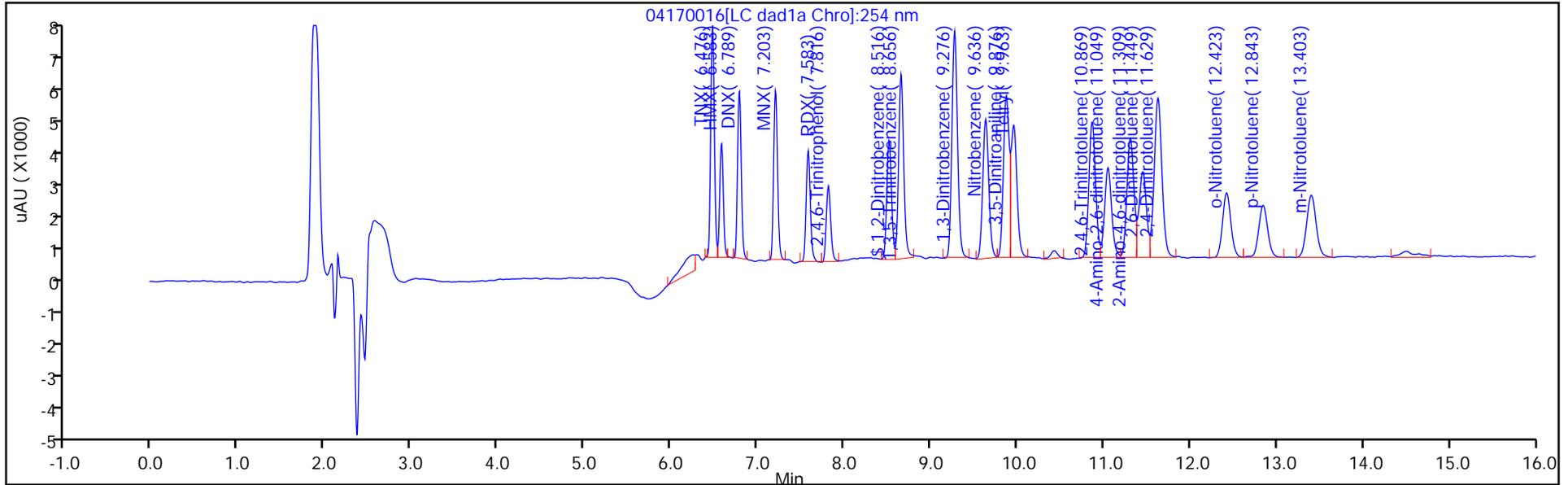
ALS Bottle#: 16

Method: 8330_X3

Limit Group: GCSV - 8330

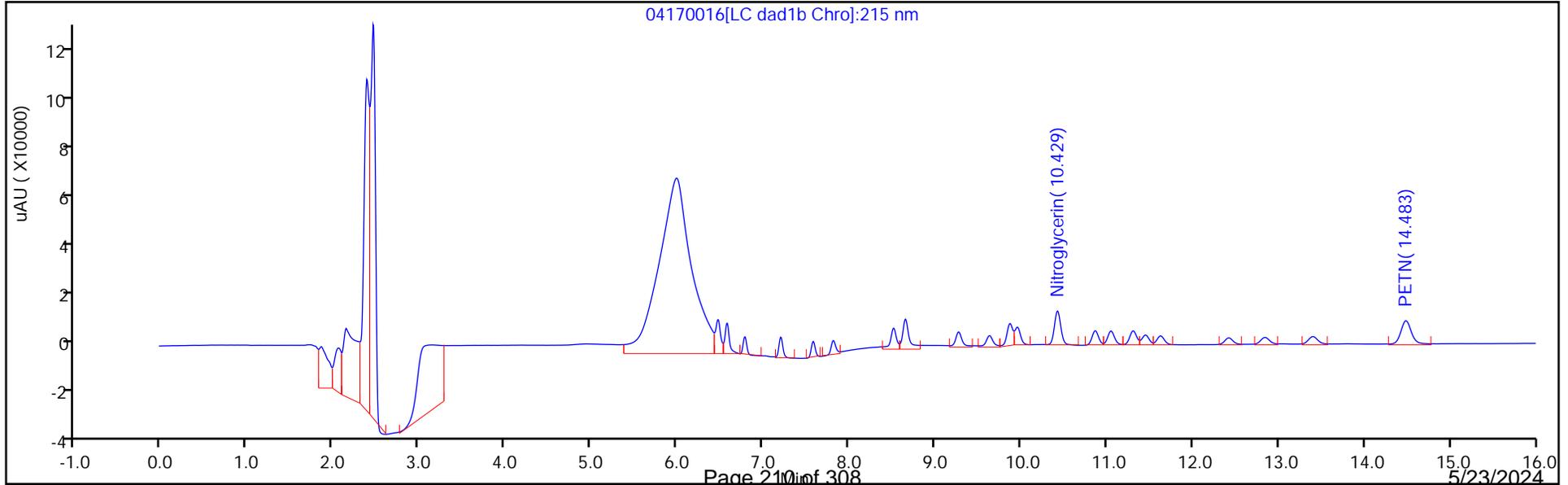
Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Eurofins Denver

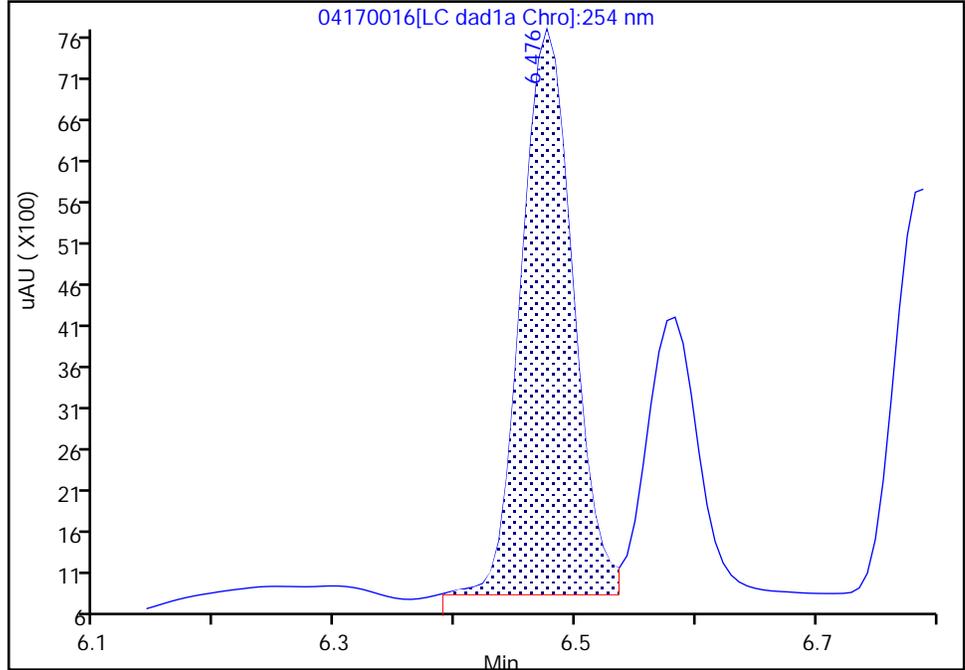
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170016.d
Injection Date: 17-Apr-2024 22:32:42 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 4
Client ID:
Operator ID: JZ/JG ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

3 TNX, CAS: 13980-04-6

Signal: 1

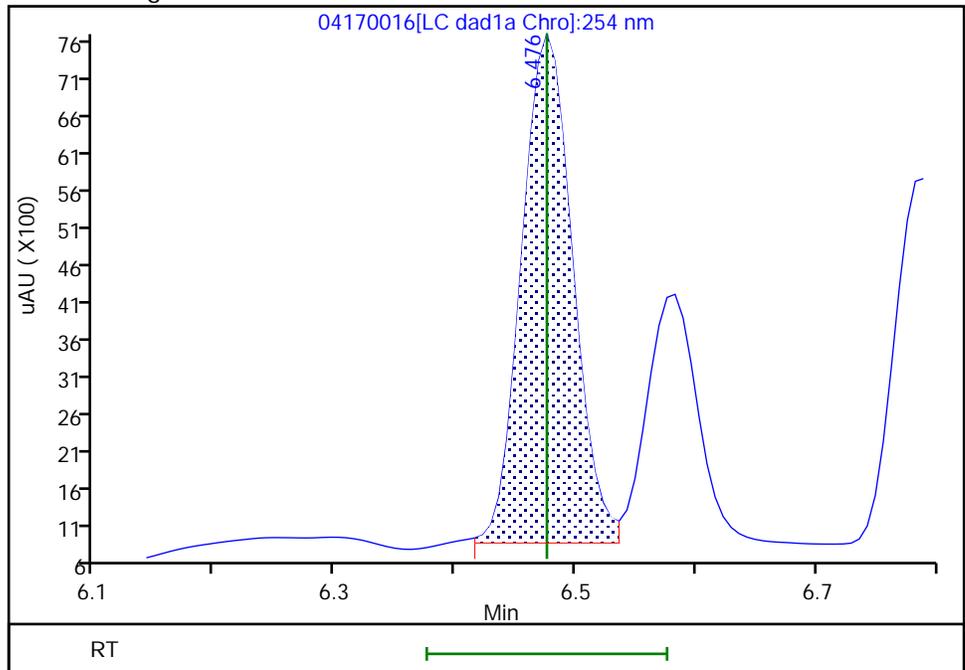
RT: 6.48
Area: 20438
Amount: 0.099827
Amount Units: ug/mL

Processing Integration Results



RT: 6.48
Area: 20006
Amount: 0.100537
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:16:01 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

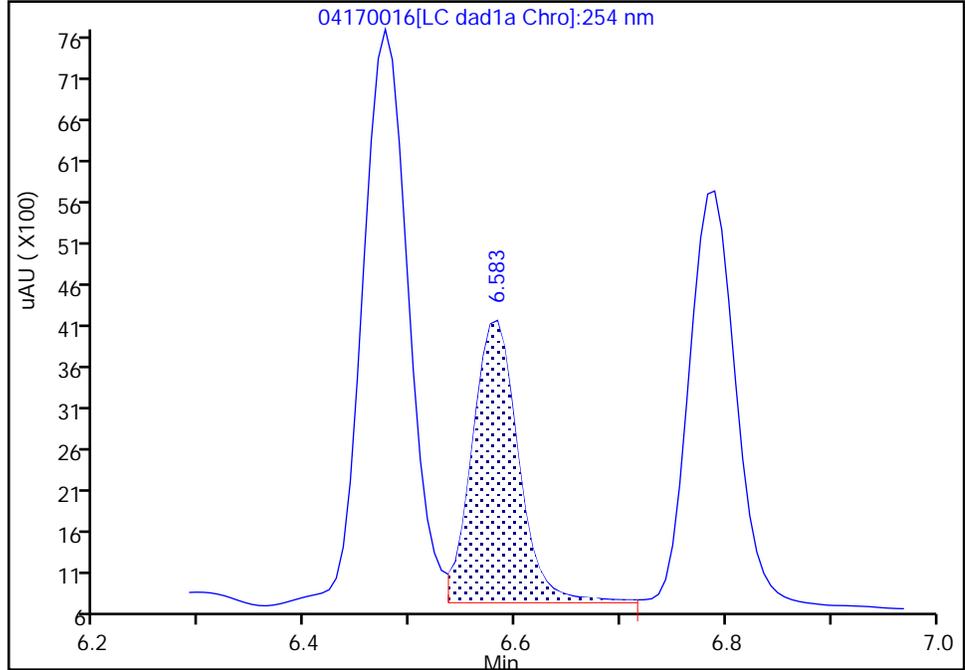
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170016.d
Injection Date: 17-Apr-2024 22:32:42 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 4
Client ID:
Operator ID: JZ/JG ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

4 HMX, CAS: 2691-41-0

Signal: 1

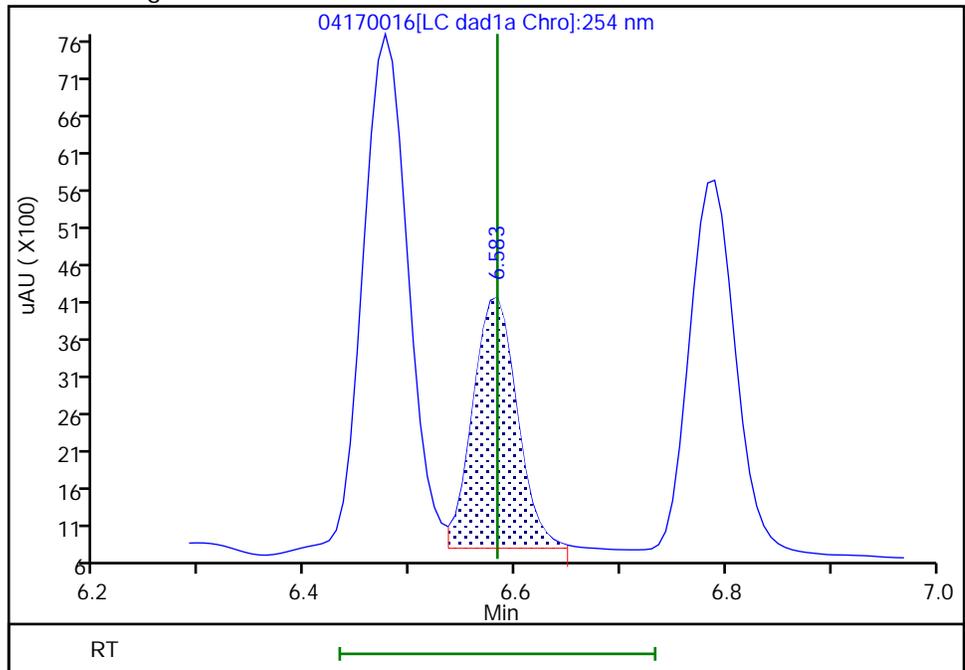
RT: 6.58
Area: 10277
Amount: 0.100918
Amount Units: ug/mL

Processing Integration Results



RT: 6.58
Area: 9645
Amount: 0.100949
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:16:02 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

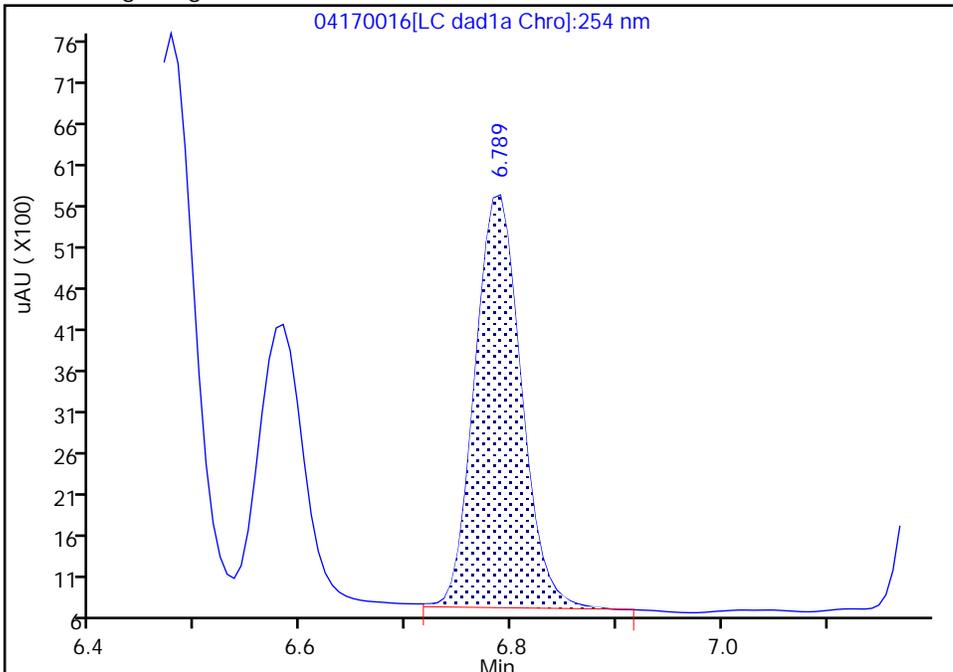
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170016.d
Injection Date: 17-Apr-2024 22:32:42 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 4
Client ID:
Operator ID: JZ/JG ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

6 DNX, CAS: 80251-29-2

Signal: 1

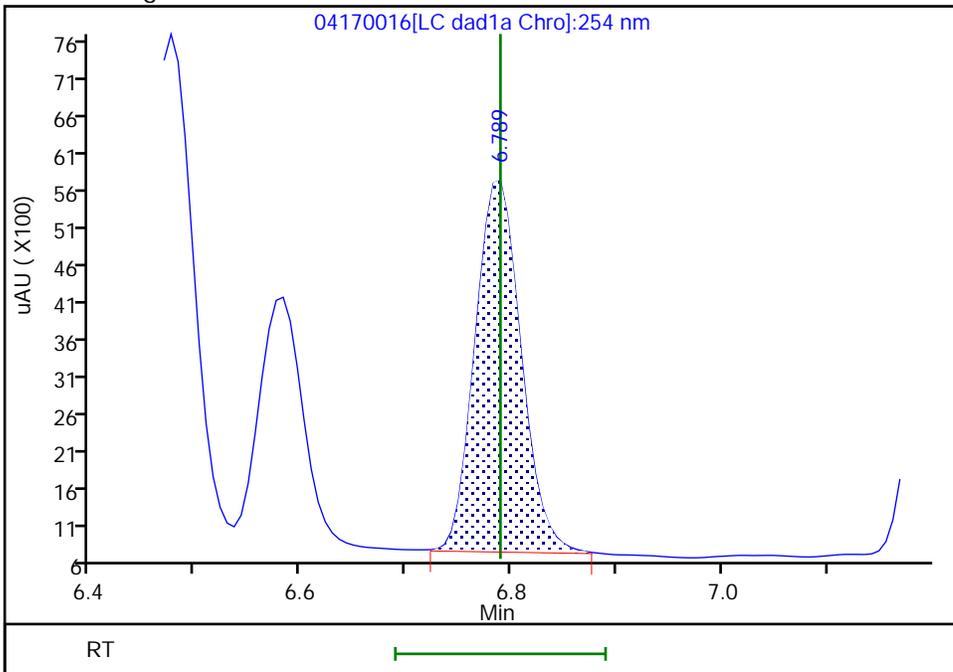
RT: 6.79
Area: 15232
Amount: 0.100146
Amount Units: ug/mL

Processing Integration Results



RT: 6.79
Area: 14834
Amount: 0.100734
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:16:06 -06:00:00 (UTC)
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Denver

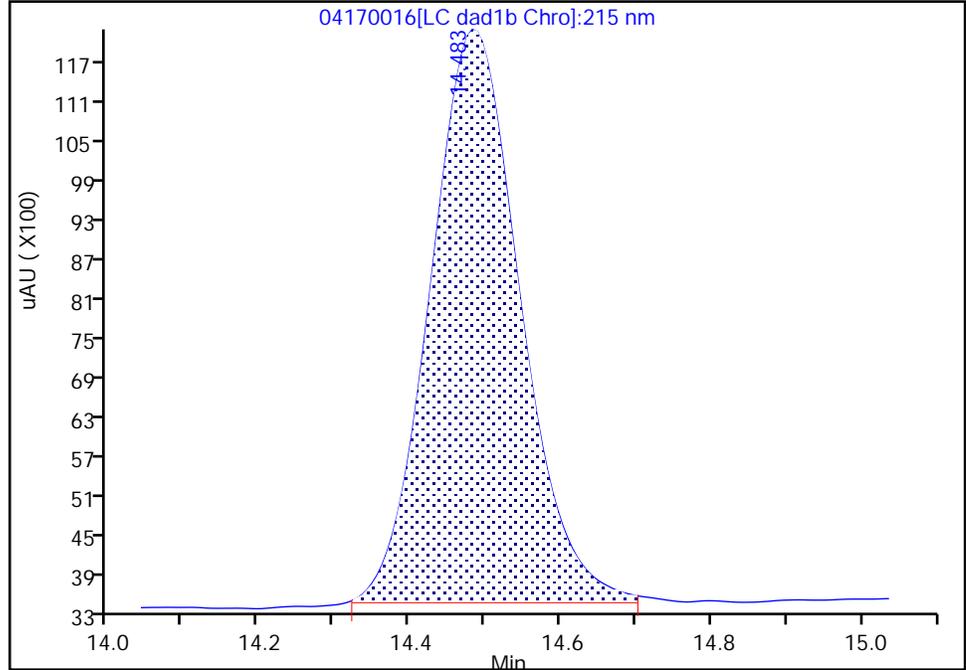
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170016.d
Injection Date: 17-Apr-2024 22:32:42 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 4
Client ID:
Operator ID: JZ/JG ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1C, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

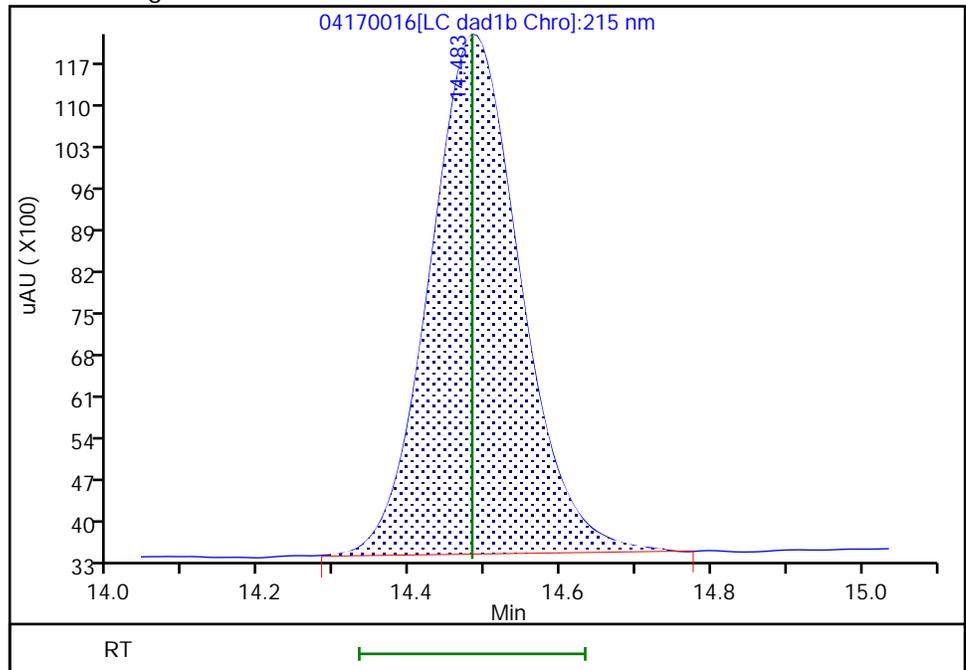
RT: 14.48
Area: 72203
Amount: 1.039474
Amount Units: ug/mL

Processing Integration Results



RT: 14.48
Area: 72600
Amount: 1.009217
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:15:43 -06:00:00 (UTC)

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170017.D
 Lims ID: IC INT/DMT 3
 Client ID:
 Sample Type: IC Calib Level: 3
 Inject. Date: 17-Apr-2024 22:55:38 ALS Bottle#: 17 Worklist Smp#: 17
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: IC INT/DMT 3
 Operator ID: JZ/JG Instrument ID: CHHPLC_X3
 Sublist: chrom-8330_X3*sub27
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 18-Apr-2024 11:59:28 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1675

First Level Reviewer: LV5D Date: 18-Apr-2024 11:16:33

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
3 TNX	1	6.478	6.476	0.002	9628	0.0502	0.0484	M
4 HMX	1	6.578	6.583	-0.005	4536	0.0500	0.0475	M
6 DNX	1	6.784	6.789	-0.005	7258	0.0501	0.0493	M
7 MNX	1	7.204	7.203	0.001	7887	0.0585	0.0577	
8 RDX	1	7.584	7.583	0.001	5612	0.0500	0.0507	
9 2,4,6-Trinitrophenol	1	7.818	7.816	0.002	3847	0.0500	0.0485	
\$ 10 1,2-Dinitrobenzene	1	8.518	8.516	0.002	6521	0.0500	0.0488	
11 1,3,5-Trinitrobenzene	1	8.658	8.656	0.002	11258	0.0500	0.0505	
12 1,3-Dinitrobenzene	1	9.277	9.276	0.001	15023	0.0500	0.0502	
13 Nitrobenzene	1	9.631	9.636	-0.005	9759	0.0500	0.0497	
14 3,5-Dinitroaniline	1	9.871	9.876	-0.005	10781	0.0500	0.0499	
15 Tetryl	1	9.957	9.963	-0.006	9010	0.0500	0.0496	
16 Nitroglycerin	2	10.424	10.429	-0.005	35657	0.5000	0.5365	
17 2,4,6-Trinitrotoluene	1	10.864	10.869	-0.005	10669	0.0500	0.0496	
18 4-Amino-2,6-dinitrotoluene	1	11.044	11.049	-0.005	7533	0.0500	0.0502	
19 2-Amino-4,6-dinitrotoluene	1	11.304	11.309	-0.005	9923	0.0500	0.0497	
20 2,6-Dinitrotoluene	1	11.451	11.449	0.002	7267	0.0500	0.0495	
21 2,4-Dinitrotoluene	1	11.624	11.629	-0.005	14425	0.0500	0.0494	
22 o-Nitrotoluene	1	12.424	12.423	0.001	6526	0.0500	0.0505	
23 p-Nitrotoluene	1	12.844	12.843	0.001	5631	0.0500	0.0499	
24 m-Nitrotoluene	1	13.404	13.403	0.001	7074	0.0500	0.0491	
25 PETN	2	14.491	14.483	0.008	35216	0.5000	0.4895	M

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

8330IntermStk_00080

Amount Added: 5.00

Units: uL

8330 DMT_00016

Amount Added: 2.50

Units: uL

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170017.d

Injection Date: 17-Apr-2024 22:55:38

Instrument ID: CHHPLC_X3

Operator ID: JZ/JG

Lims ID: IC INT/DMT 3

Worklist Smp#: 17

Client ID:

Injection Vol: 100.0 ul

Dil. Factor: 1.0000

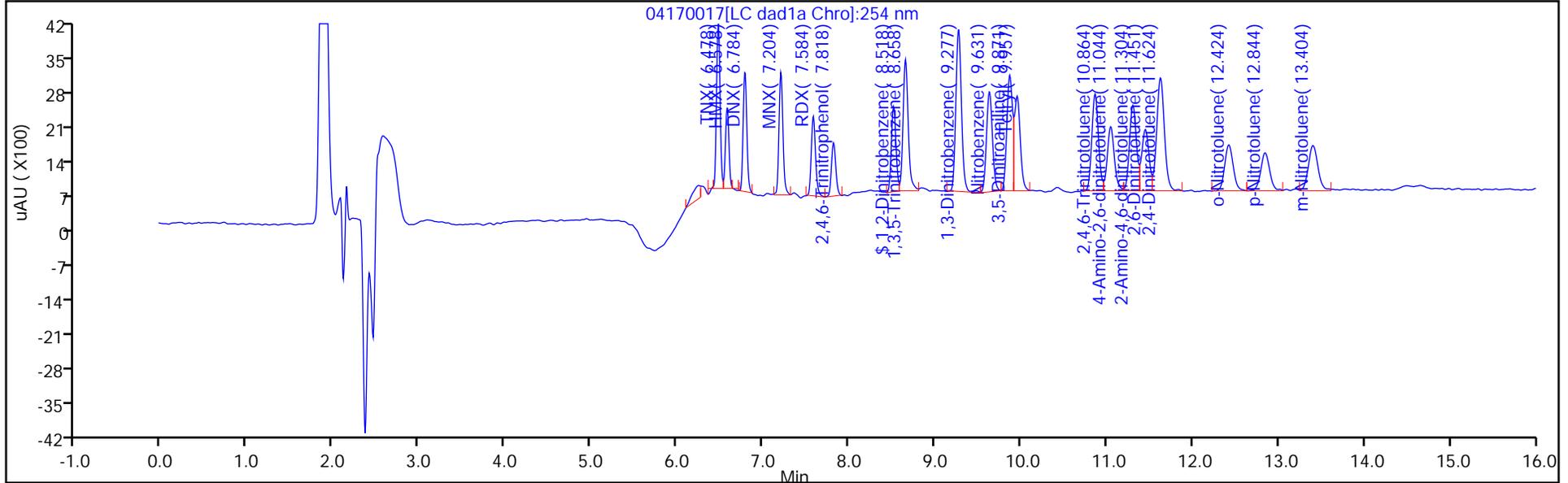
ALS Bottle#: 17

Method: 8330_X3

Limit Group: GCSV - 8330

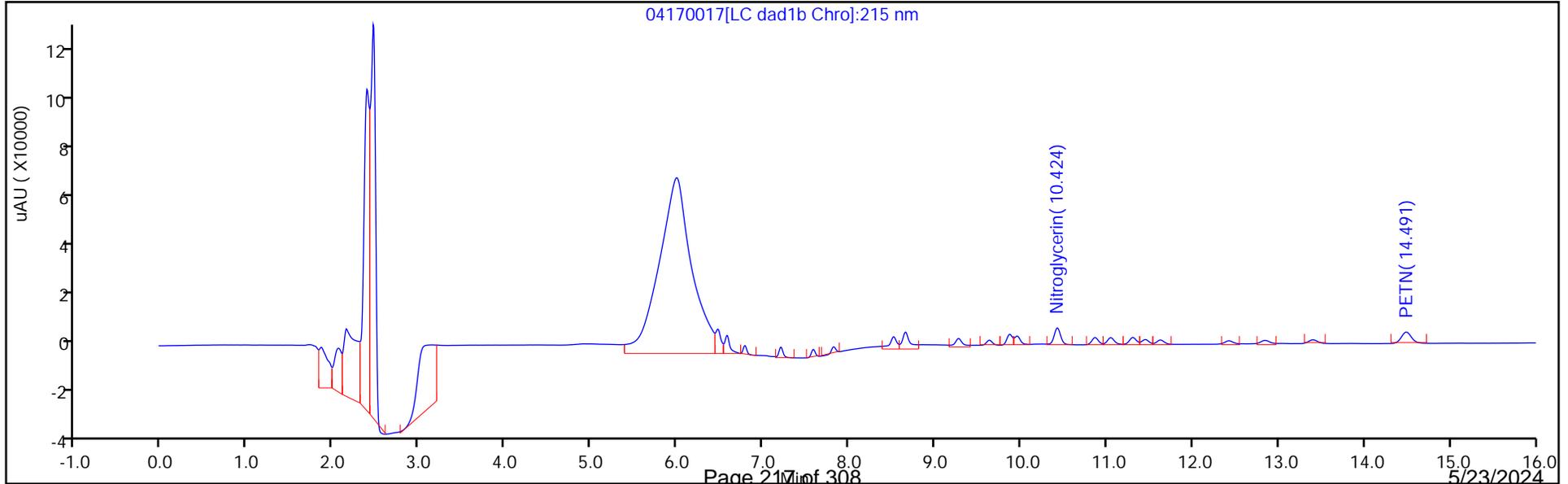
Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Eurofins Denver

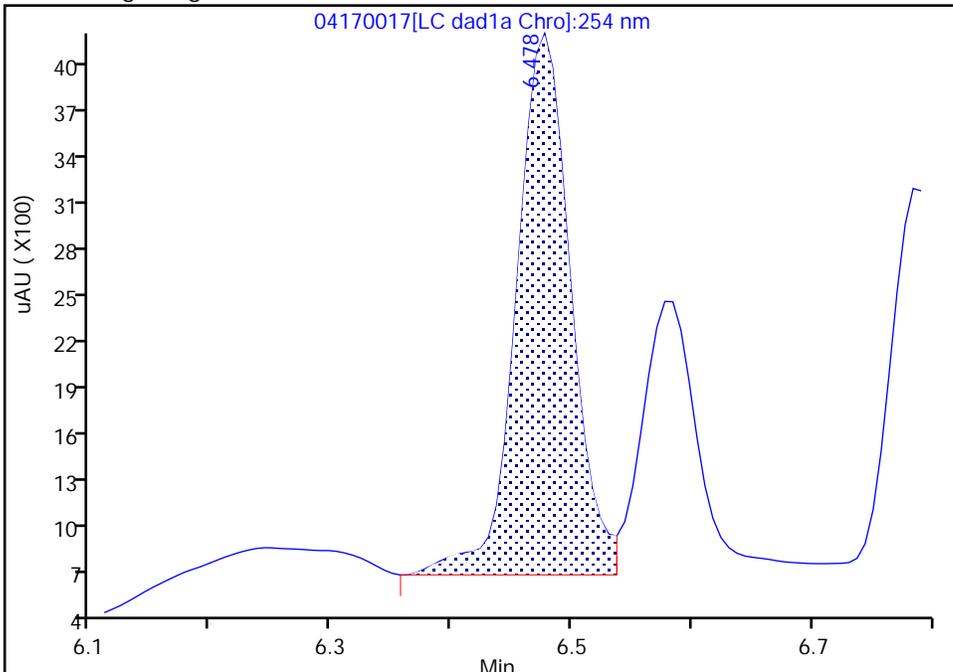
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170017.d
Injection Date: 17-Apr-2024 22:55:38 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 3
Client ID:
Operator ID: JZ/JG ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

3 TNX, CAS: 13980-04-6

Signal: 1

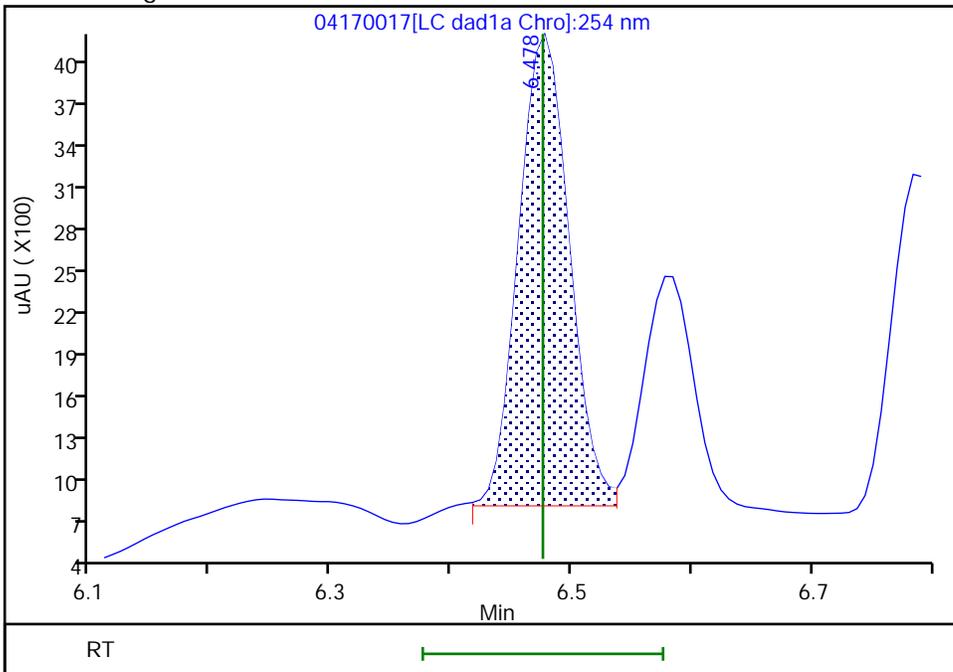
RT: 6.48
Area: 10871
Amount: 0.053223
Amount Units: ug/mL

Processing Integration Results



RT: 6.48
Area: 9628
Amount: 0.048384
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:16:21 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

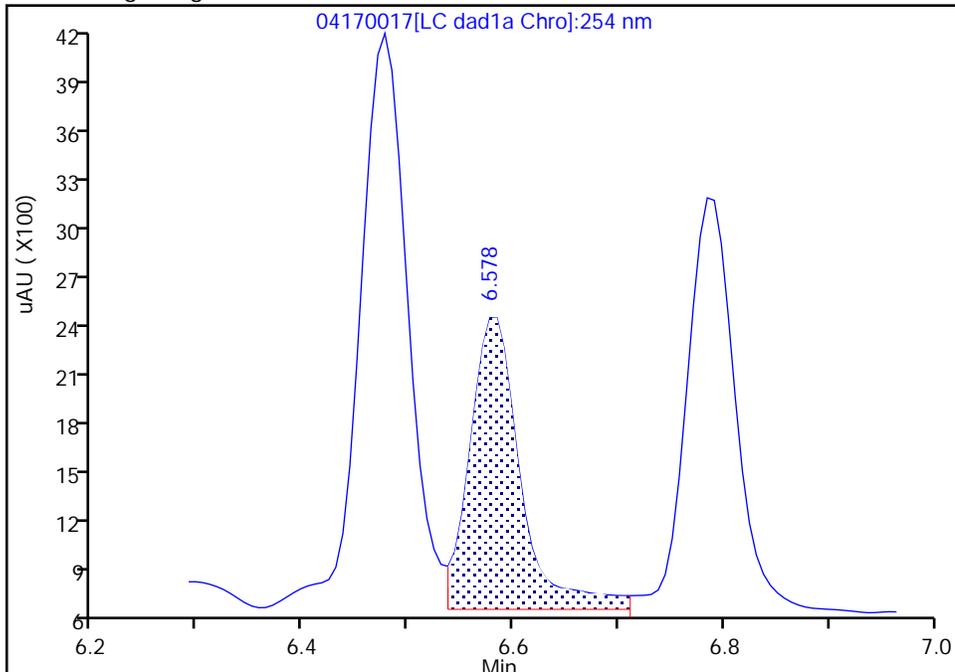
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170017.d
Injection Date: 17-Apr-2024 22:55:38 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 3
Client ID:
Operator ID: JZ/JG ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

4 HMX, CAS: 2691-41-0

Signal: 1

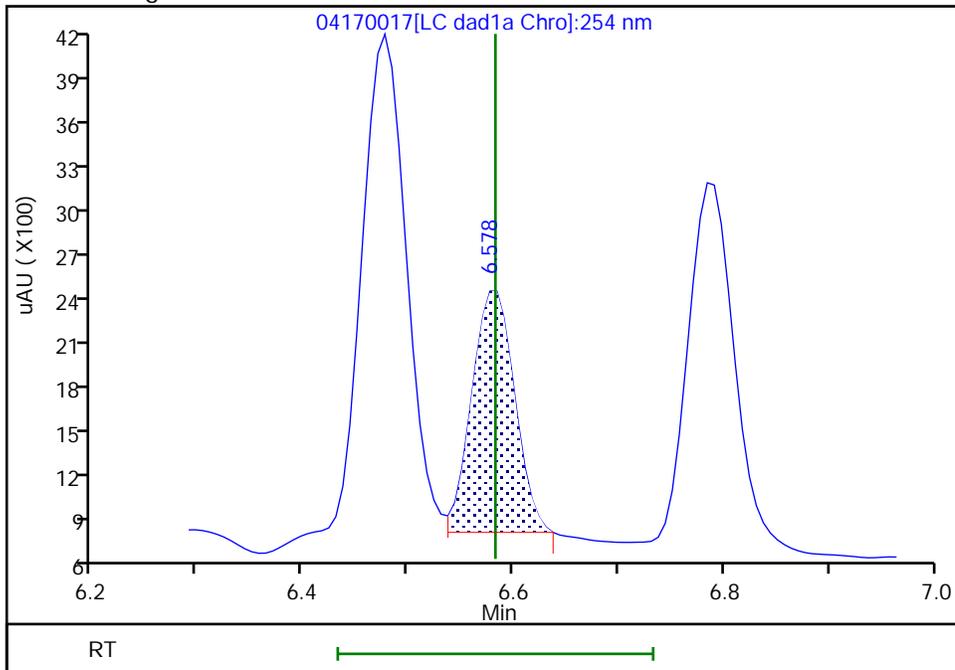
RT: 6.58
Area: 5791
Amount: 0.057261
Amount Units: ug/mL

Processing Integration Results



RT: 6.58
Area: 4536
Amount: 0.047476
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:16:22 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

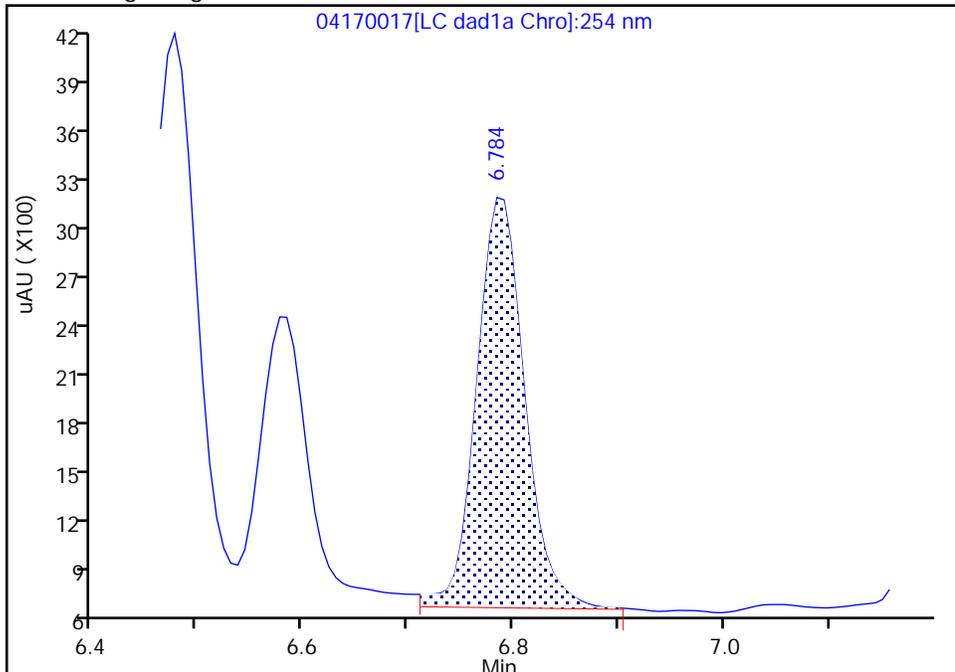
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170017.d
Injection Date: 17-Apr-2024 22:55:38 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 3
Client ID:
Operator ID: JZ/JG ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

6 DNX, CAS: 80251-29-2

Signal: 1

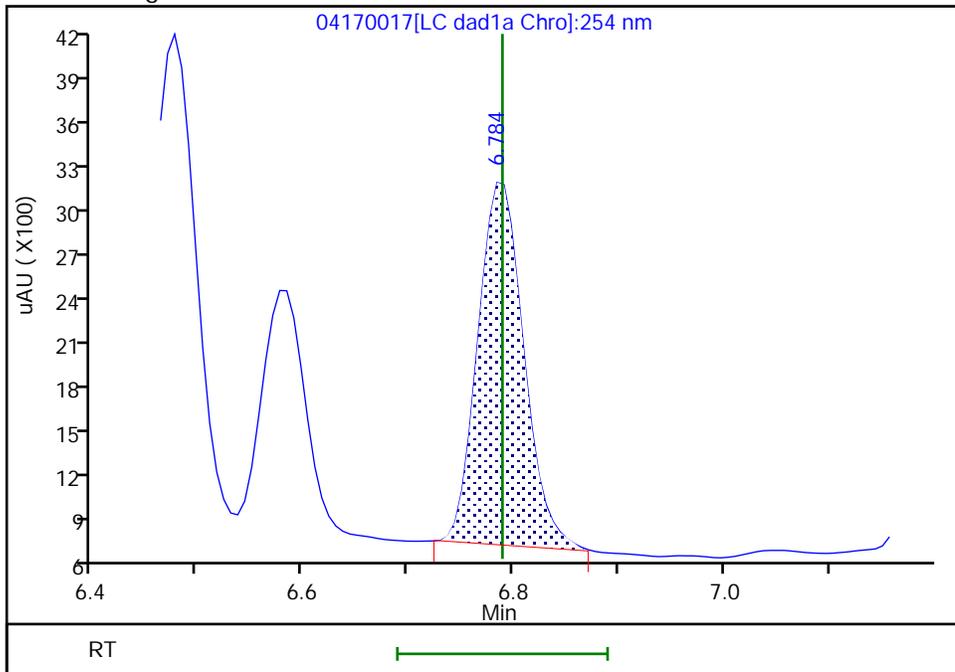
RT: 6.78
Area: 7818
Amount: 0.051551
Amount Units: ug/mL

Processing Integration Results



RT: 6.78
Area: 7258
Amount: 0.049287
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:16:26 -06:00:00 (UTC)
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Denver

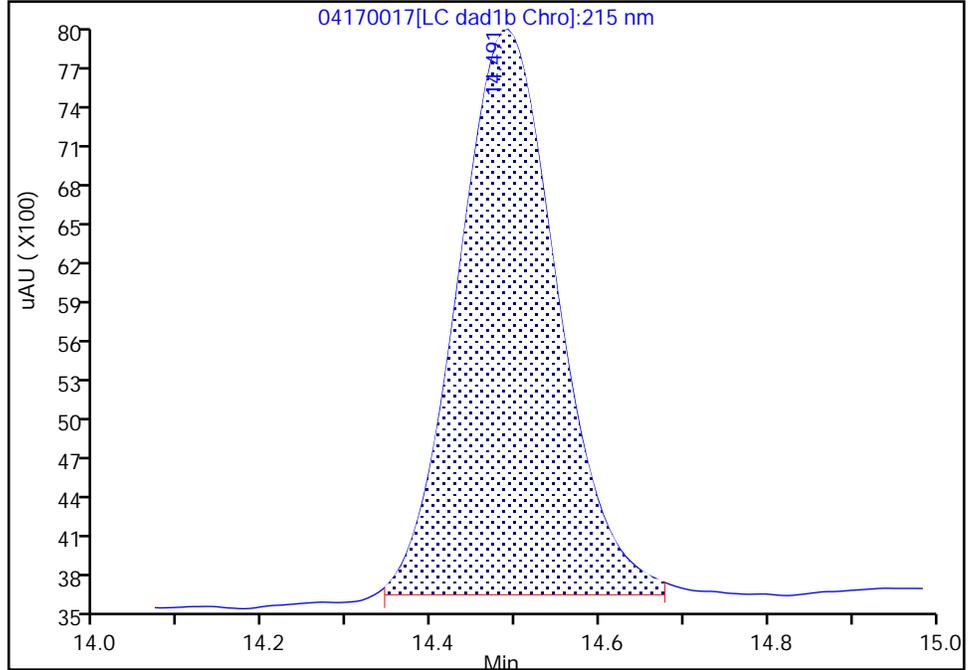
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170017.d
Injection Date: 17-Apr-2024 22:55:38 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 3
Client ID:
Operator ID: JZ/JG ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1C, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

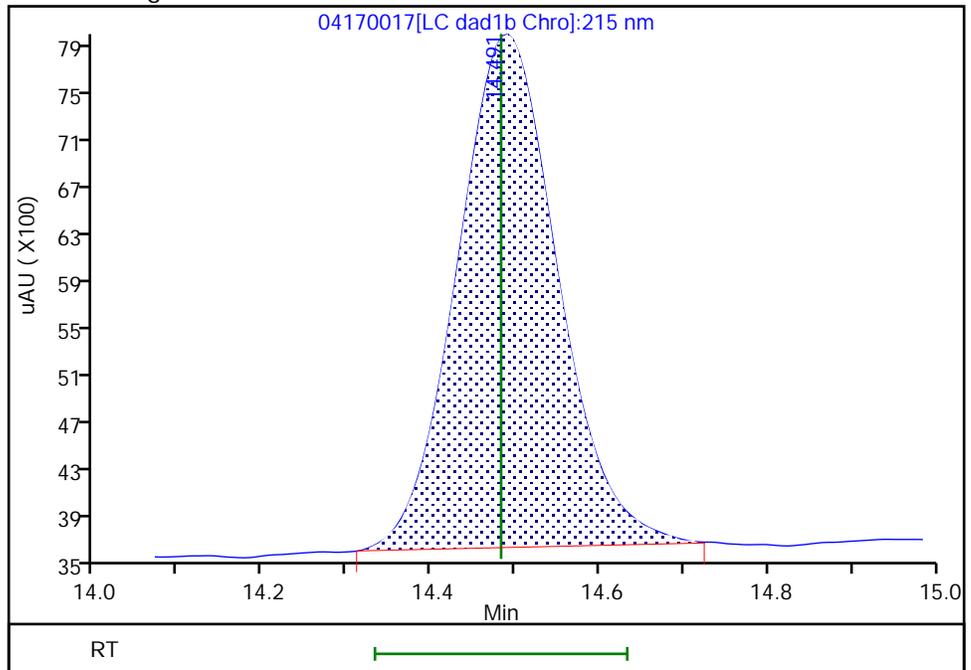
RT: 14.49
Area: 34790
Amount: 0.500498
Amount Units: ug/mL

Processing Integration Results



RT: 14.49
Area: 35216
Amount: 0.489540
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:16:31 -06:00:00 (UTC)

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170018.D
 Lims ID: IC INT/DMT 2
 Client ID:
 Sample Type: IC Calib Level: 2
 Inject. Date: 17-Apr-2024 23:18:32 ALS Bottle#: 18 Worklist Smp#: 18
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: IC INT/DMT 2
 Operator ID: JZ/JG Instrument ID: CHHPLC_X3
 Sublist: chrom-8330_X3*sub27
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 18-Apr-2024 11:59:29 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1675

First Level Reviewer: LV5D Date: 18-Apr-2024 11:17:35

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
3 TNX	1	6.475	6.476	-0.001	4023	0.0201	0.0202	
4 HMX	1	6.582	6.583	-0.001	2017	0.0200	0.0211	
6 DNX	1	6.788	6.789	-0.001	2843	0.0200	0.0193	M
7 MNX	1	7.202	7.203	-0.001	2991	0.0234	0.0219	
8 RDX	1	7.582	7.583	-0.001	2334	0.0200	0.0211	
9 2,4,6-Trinitrophenol	1	7.822	7.816	0.006	1524	0.0200	0.0192	
\$ 10 1,2-Dinitrobenzene	1	8.522	8.516	0.006	2603	0.0200	0.0191	M
11 1,3,5-Trinitrobenzene	1	8.655	8.656	-0.001	4349	0.0200	0.0195	M
12 1,3-Dinitrobenzene	1	9.275	9.276	-0.001	5678	0.0200	0.0190	
13 Nitrobenzene	1	9.635	9.636	-0.001	3932	0.0200	0.0200	
14 3,5-Dinitroaniline	1	9.868	9.876	-0.008	4171	0.0200	0.0199	M
15 Tetryl	1	9.955	9.963	-0.008	3374	0.0200	0.0186	Ma
16 Nitroglycerin	2	10.422	10.429	-0.007	11963	0.2000	0.1800	M
17 2,4,6-Trinitrotoluene	1	10.862	10.869	-0.007	4400	0.0200	0.0204	
18 4-Amino-2,6-dinitrotoluene	1	11.042	11.049	-0.007	3261	0.0200	0.0217	
19 2-Amino-4,6-dinitrotoluene	1	11.302	11.309	-0.007	3997	0.0200	0.0200	
20 2,6-Dinitrotoluene	1	11.448	11.449	-0.001	2880	0.0200	0.0196	
21 2,4-Dinitrotoluene	1	11.622	11.629	-0.007	5793	0.0200	0.0198	
22 o-Nitrotoluene	1	12.415	12.423	-0.008	2777	0.0200	0.0215	
23 p-Nitrotoluene	1	12.842	12.843	-0.001	2413	0.0200	0.0214	
24 m-Nitrotoluene	1	13.395	13.403	-0.008	3066	0.0200	0.0213	
25 PETN	2	14.482	14.483	-0.001	14174	0.2000	0.1970	M

QC Flag Legend
Processing Flags

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

8330IntermStk_00080

Amount Added: 2.00

Units: uL

8330 DMT_00016

Amount Added: 1.00

Units: uL

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170018.d

Injection Date: 17-Apr-2024 23:18:32

Instrument ID: CHHPLC_X3

Operator ID: JZ/JG

Lims ID: IC INT/DMT 2

Worklist Smp#: 18

Client ID:

Injection Vol: 100.0 ul

Dil. Factor: 1.0000

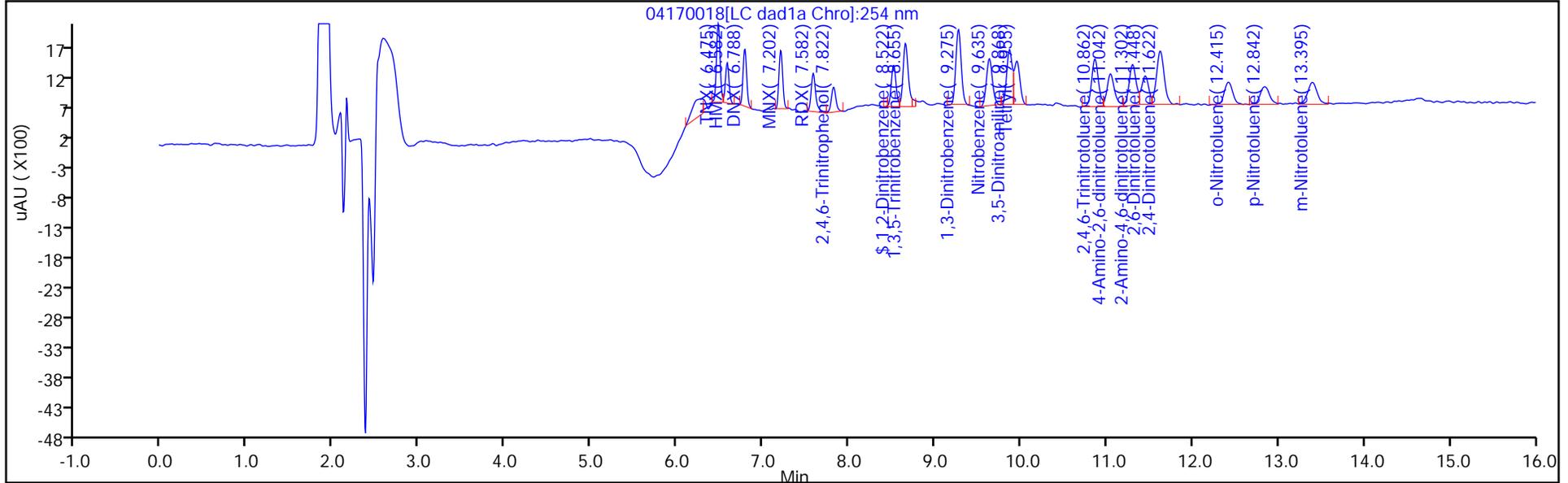
ALS Bottle#: 18

Method: 8330_X3

Limit Group: GCSV - 8330

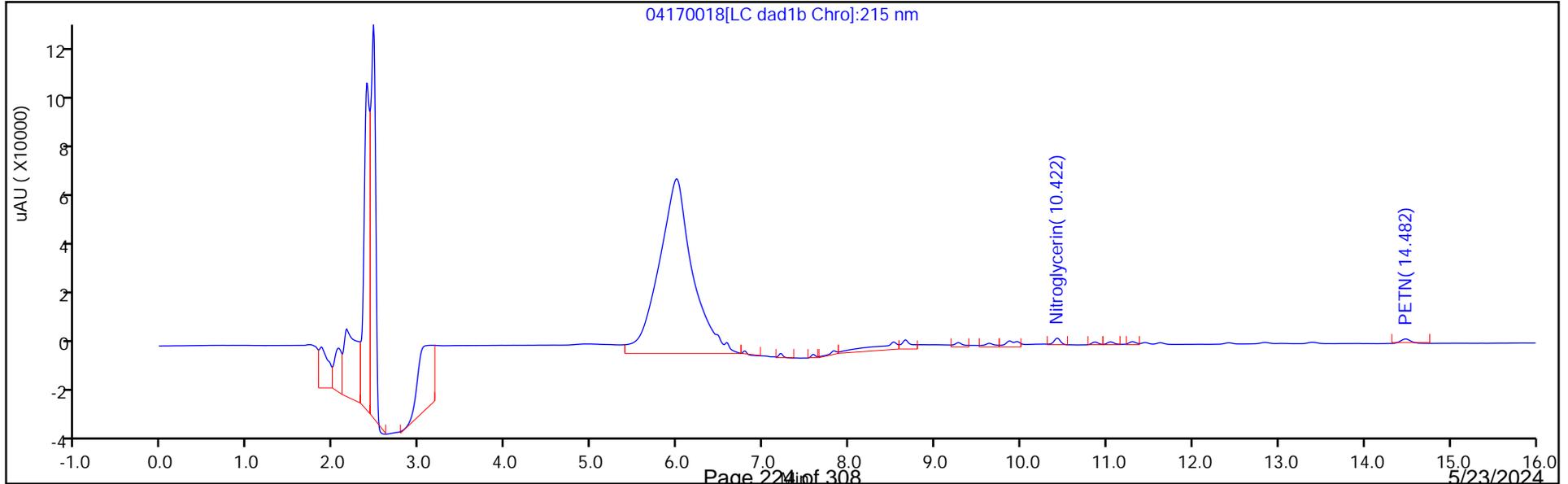
Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Eurofins Denver

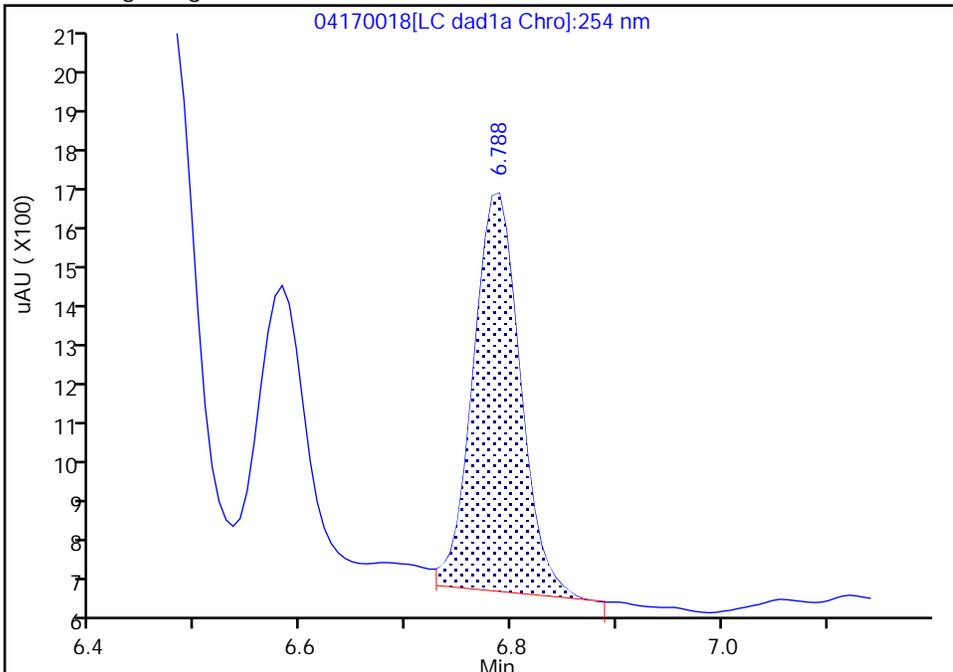
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170018.d
Injection Date: 17-Apr-2024 23:18:32 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 2
Client ID:
Operator ID: JZ/JG ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

6 DNX, CAS: 80251-29-2

Signal: 1

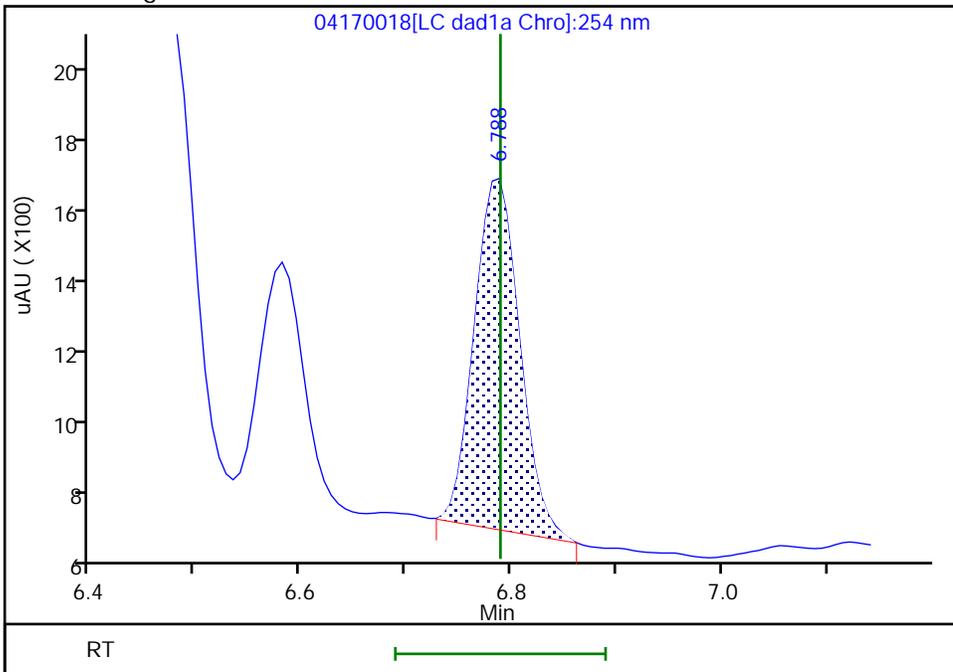
RT: 6.79
Area: 3044
Amount: 0.020237
Amount Units: ug/mL

Processing Integration Results



RT: 6.79
Area: 2843
Amount: 0.019306
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:17:01 -06:00:00 (UTC)

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Denver

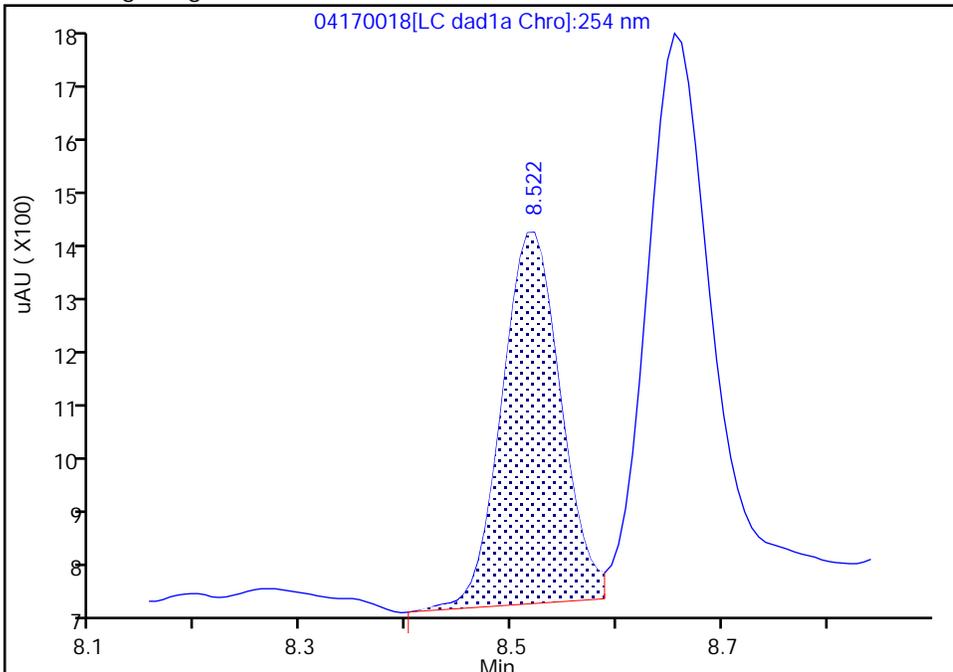
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170018.d
Injection Date: 17-Apr-2024 23:18:32 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 2
Client ID:
Operator ID: JZ/JG ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

\$ 10 1,2-Dinitrobenzene, CAS: 528-29-0

Signal: 1

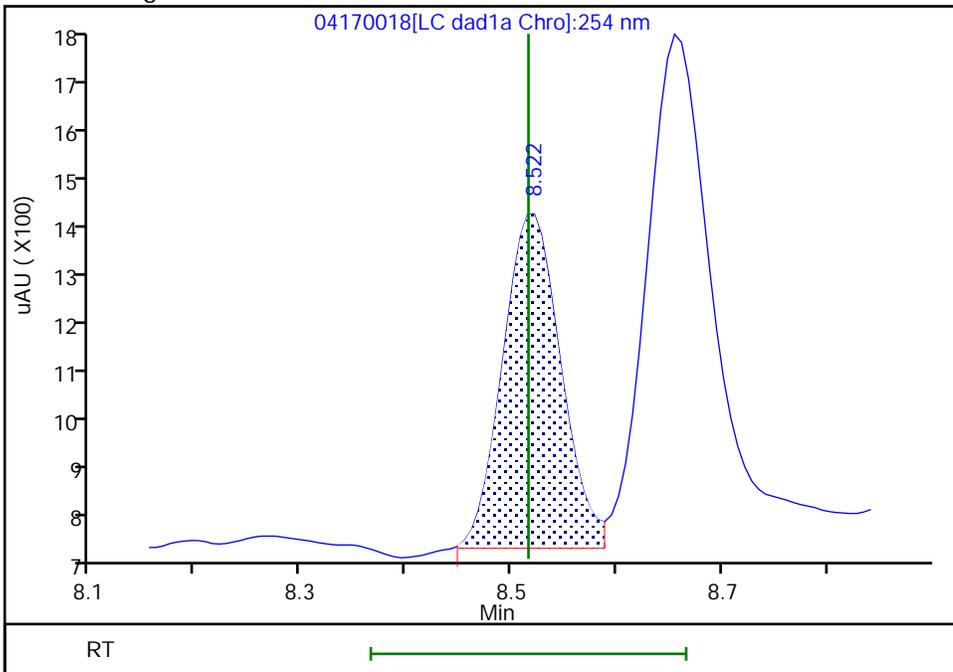
RT: 8.52
Area: 2640
Amount: 0.019730
Amount Units: ug/mL

Processing Integration Results



RT: 8.52
Area: 2603
Amount: 0.019063
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:19:58 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

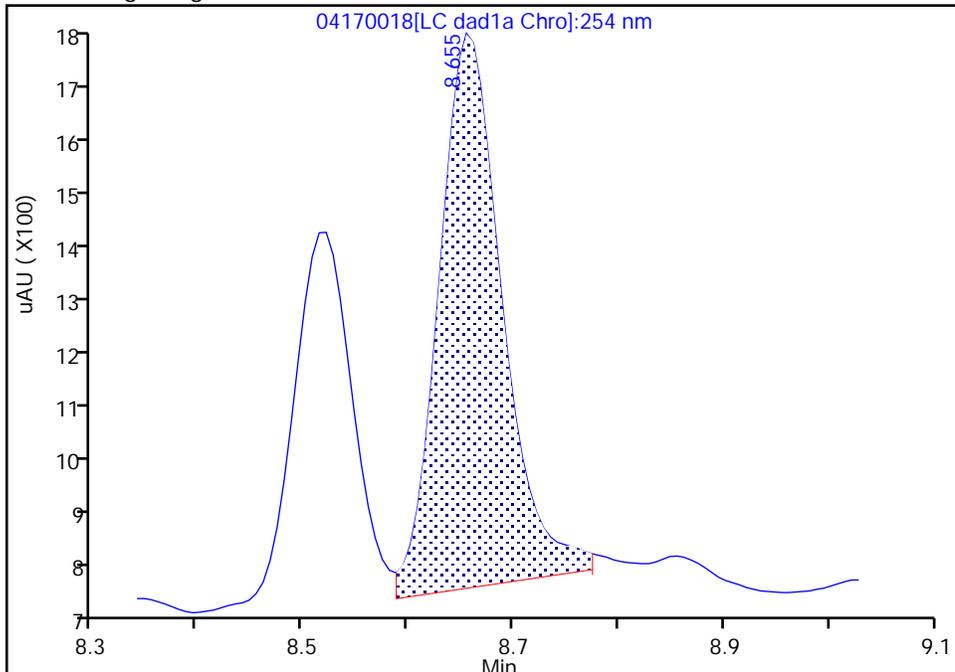
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170018.d
Injection Date: 17-Apr-2024 23:18:32 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 2
Client ID:
Operator ID: JZ/JG ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

11 1,3,5-Trinitrobenzene, CAS: 99-35-4

Signal: 1

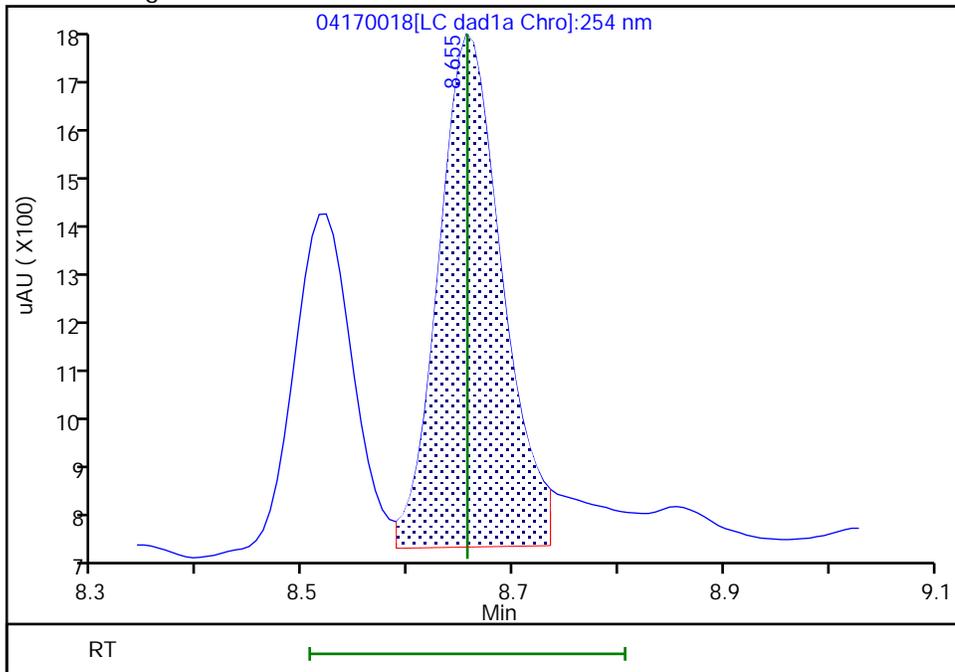
RT: 8.66
Area: 4251
Amount: 0.019122
Amount Units: ug/mL

Processing Integration Results



RT: 8.66
Area: 4349
Amount: 0.019515
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:19:57 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

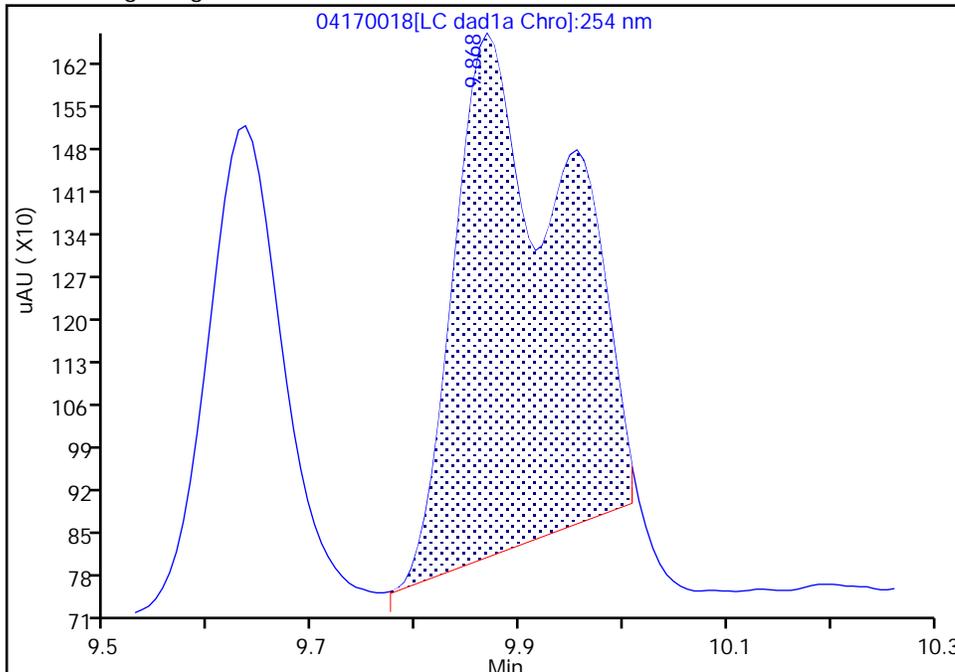
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170018.d
Injection Date: 17-Apr-2024 23:18:32 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 2
Client ID:
Operator ID: JZ/JG ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

14 3,5-Dinitroaniline, CAS: 618-87-1

Signal: 1

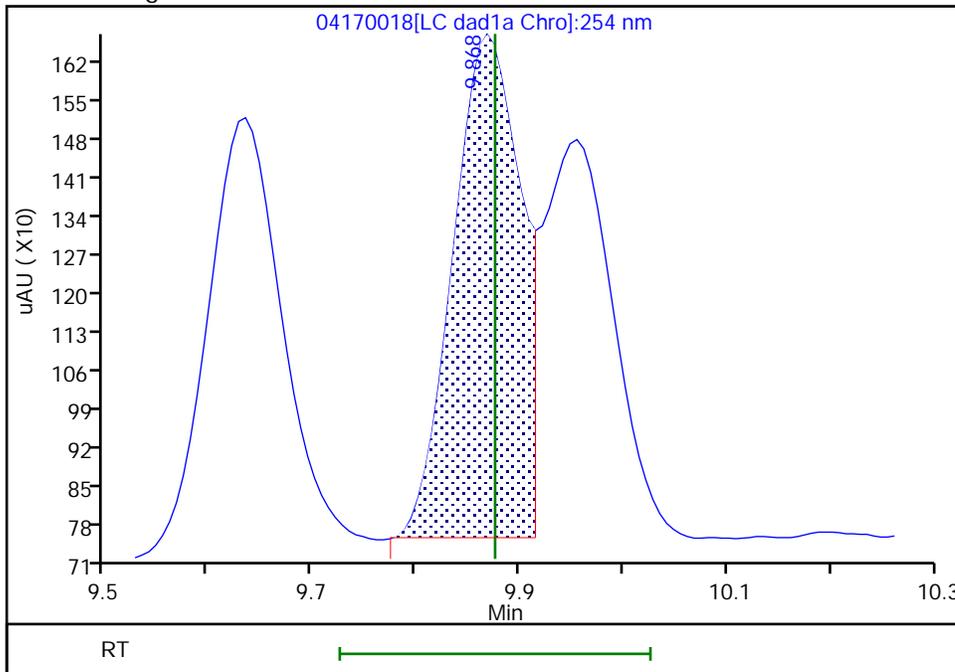
RT: 9.87
Area: 6350
Amount: 0.025070
Amount Units: ug/mL

Processing Integration Results



RT: 9.87
Area: 4171
Amount: 0.019946
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:17:15 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

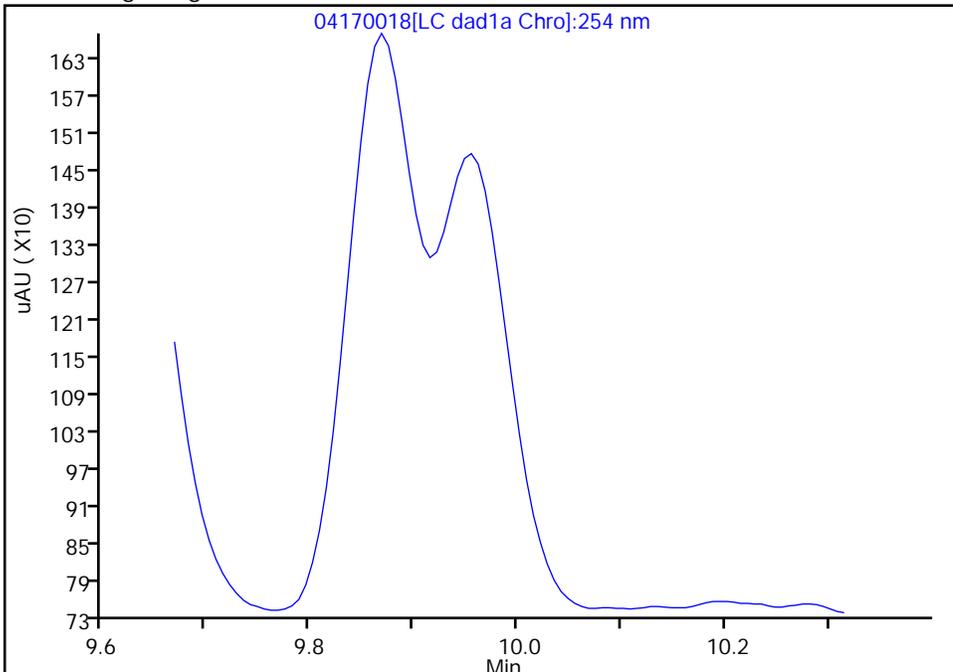
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170018.d
Injection Date: 17-Apr-2024 23:18:32 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 2
Client ID:
Operator ID: JZ/JG ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

15 Tetryl, CAS: 479-45-8

Signal: 1

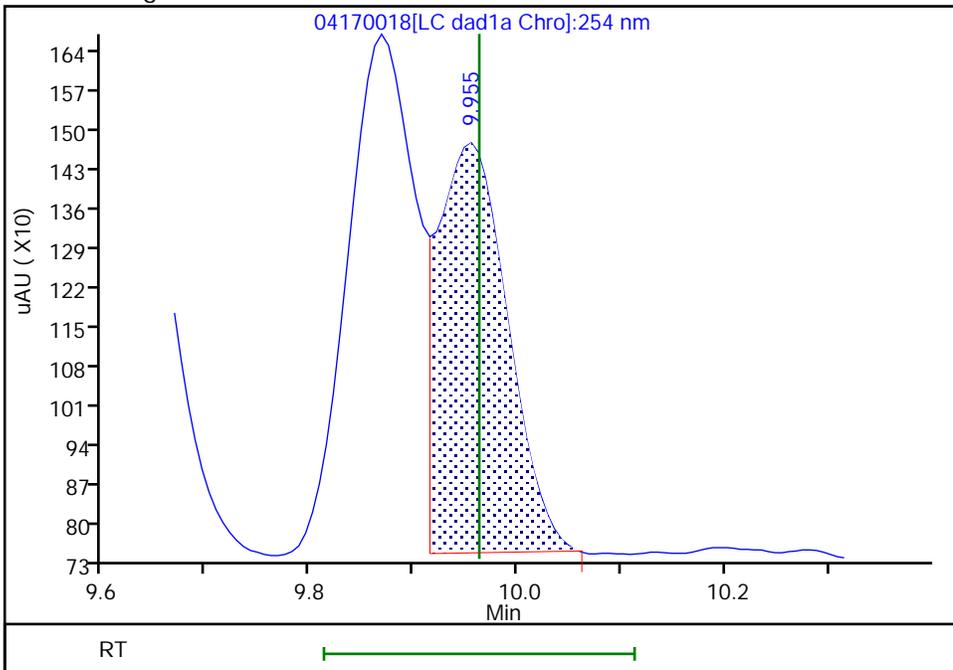
Not Detected
Expected RT: 9.96

Processing Integration Results



RT: 9.95
Area: 3374
Amount: 0.018581
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:17:18 -06:00:00 (UTC)

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline

Eurofins Denver

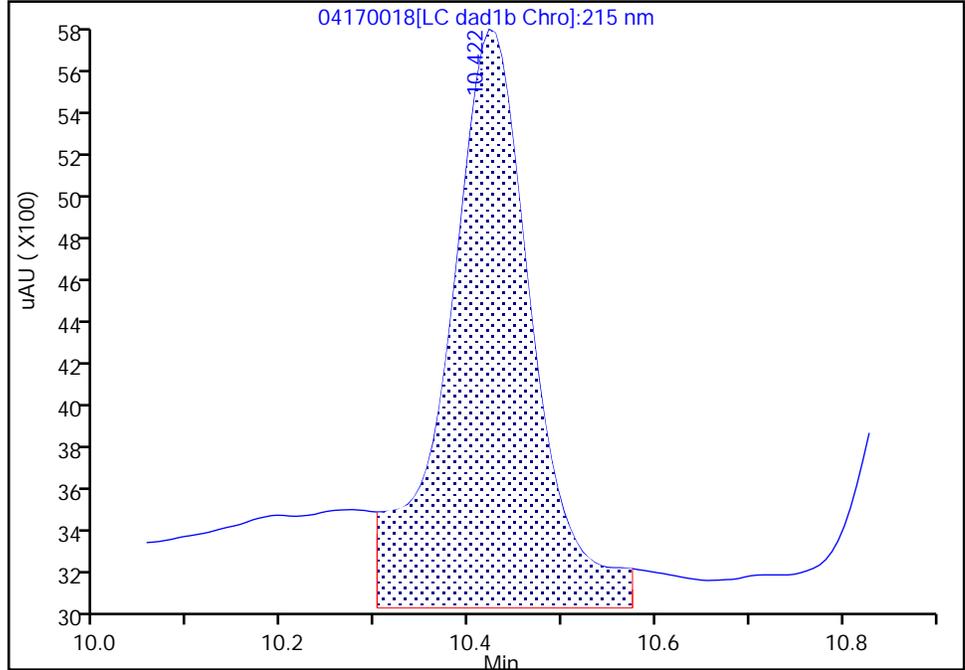
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170018.d
Injection Date: 17-Apr-2024 23:18:32 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 2
Client ID:
Operator ID: JZ/JG ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1C, 215 nm

16 Nitroglycerin, CAS: 55-63-0

Signal: 1

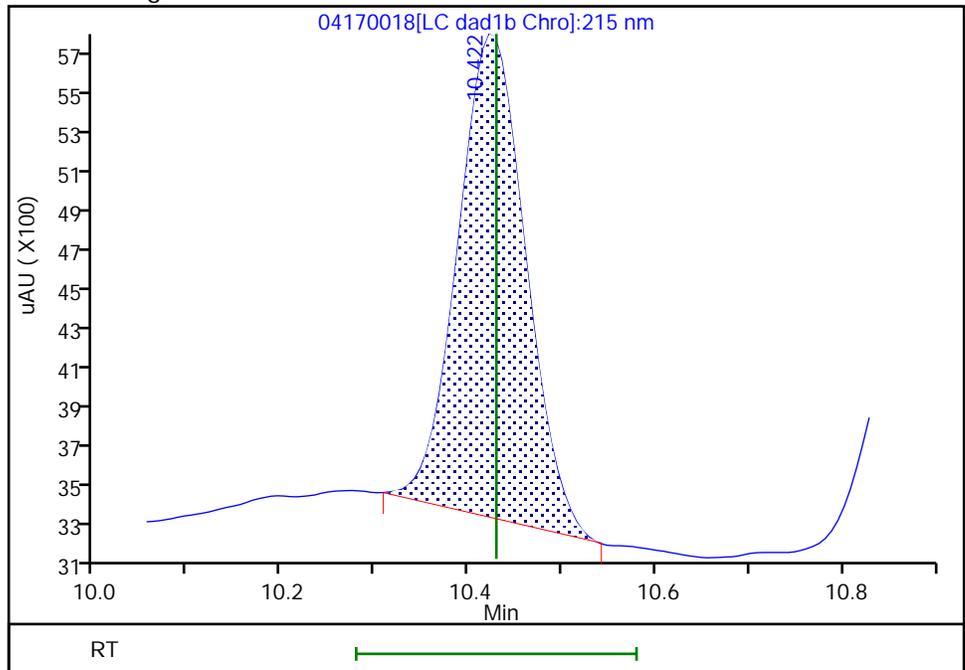
RT: 10.42
Area: 17067
Amount: 0.169937
Amount Units: ug/mL

Processing Integration Results



RT: 10.42
Area: 11963
Amount: 0.179992
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:17:33 -06:00:00 (UTC)

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Denver

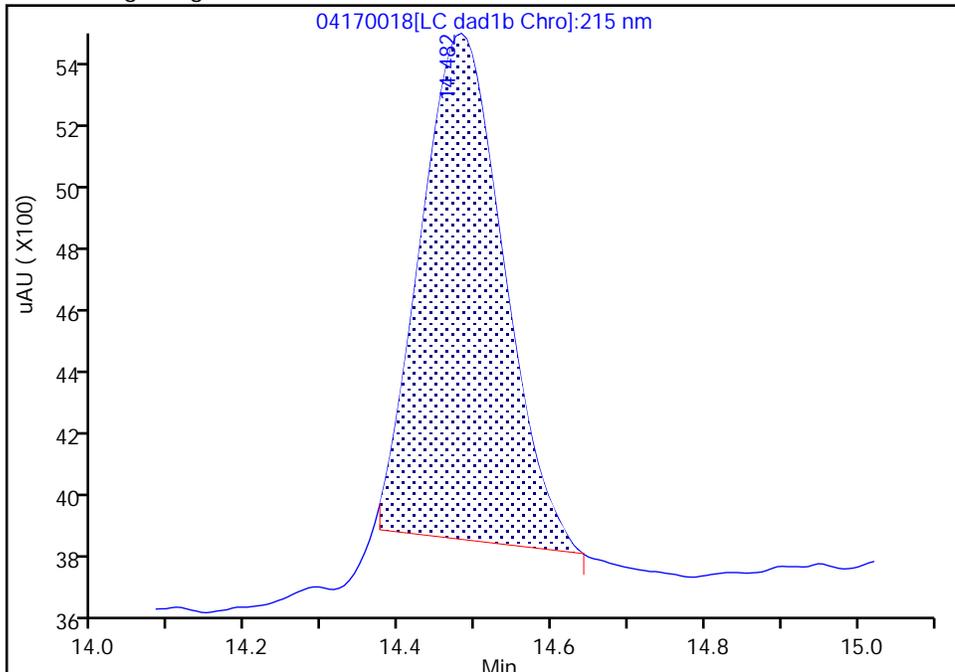
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170018.d
Injection Date: 17-Apr-2024 23:18:32 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 2
Client ID:
Operator ID: JZ/JG ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1C, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

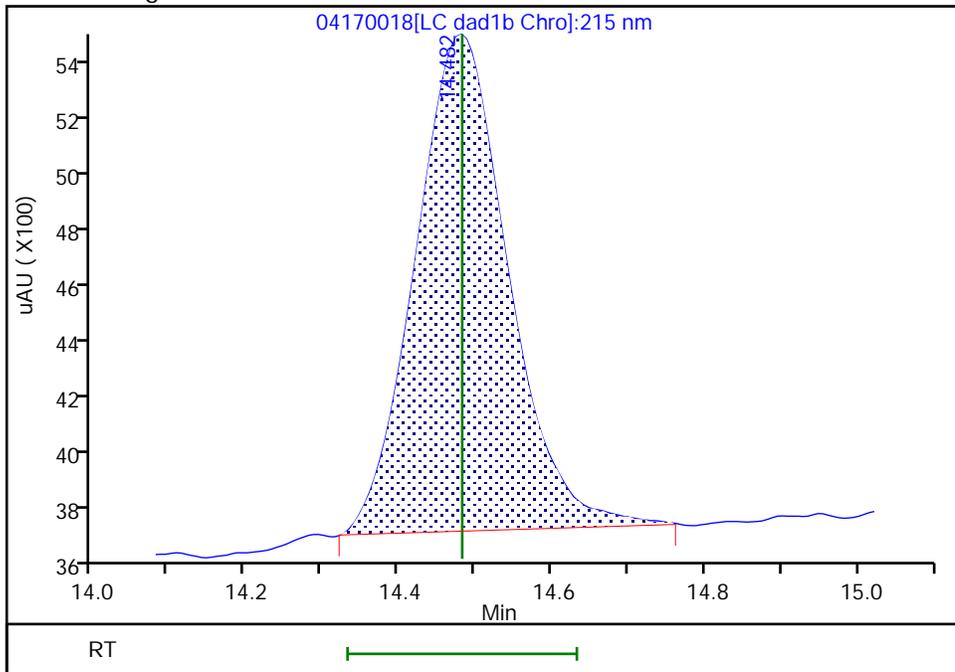
RT: 14.48
Area: 11689
Amount: 0.167904
Amount Units: ug/mL

Processing Integration Results



RT: 14.48
Area: 14174
Amount: 0.197034
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:17:28 -06:00:00 (UTC)

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170019.D
 Lims ID: IC INT/DMT 1
 Client ID:
 Sample Type: IC Calib Level: 1
 Inject. Date: 17-Apr-2024 23:41:30 ALS Bottle#: 19 Worklist Smp#: 19
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: IC INT/DMT 1
 Operator ID: JZ/JG Instrument ID: CHHPLC_X3
 Sublist: chrom-8330_X3*sub27
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 18-Apr-2024 11:59:31 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1675

First Level Reviewer: LV5D Date: 18-Apr-2024 11:19:45

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
3 TNX	1	6.480	6.476	0.004	2051	0.0100	0.0103	M
4 HMX	1	6.580	6.583	-0.003	919	0.0100	0.009619	M
6 DNX	1	6.786	6.789	-0.003	1516	0.0100	0.0103	M
7 MNX	1	7.206	7.203	0.003	1649	0.0117	0.0121	
8 RDX	1	7.580	7.583	-0.003	1187	0.0100	0.0107	M
9 2,4,6-Trinitrophenol	1	7.820	7.816	0.004	787	0.0100	0.0099	
\$ 10 1,2-Dinitrobenzene	1	8.520	8.516	0.004	1445	0.0100	0.0103	M
11 1,3,5-Trinitrobenzene	1	8.660	8.656	0.004	2549	0.0100	0.0114	M
12 1,3-Dinitrobenzene	1	9.273	9.276	-0.003	3086	0.0100	0.0103	
13 Nitrobenzene	1	9.633	9.636	-0.003	1985	0.0100	0.0101	
14 3,5-Dinitroaniline	1	9.873	9.876	-0.003	1971	0.0100	0.0100	M
15 Tetryl	1	9.953	9.963	-0.010	1835	0.0100	0.0101	Ma
16 Nitroglycerin	2	10.426	10.429	-0.003	6048	0.1000	0.0910	M
17 2,4,6-Trinitrotoluene	1	10.866	10.869	-0.003	2081	0.0100	0.009670	
18 4-Amino-2,6-dinitrotoluene	1	11.046	11.049	-0.003	1406	0.0100	0.009377	
19 2-Amino-4,6-dinitrotoluene	1	11.306	11.309	-0.003	1951	0.0100	0.009764	
20 2,6-Dinitrotoluene	1	11.453	11.449	0.004	1557	0.0100	0.0106	
21 2,4-Dinitrotoluene	1	11.626	11.629	-0.003	2993	0.0100	0.0103	
22 o-Nitrotoluene	1	12.419	12.423	-0.004	1340	0.0100	0.0104	
23 p-Nitrotoluene	1	12.853	12.843	0.010	1249	0.0100	0.0111	
24 m-Nitrotoluene	1	13.399	13.403	-0.004	1713	0.0100	0.0119	
25 PETN	2	14.486	14.483	0.003	7807	0.1000	0.1085	Ma

QC Flag Legend
Processing Flags

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

8330IntermStk_00080

Amount Added: 1.00

Units: uL

8330 DMT_00016

Amount Added: 0.50

Units: uL

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170019.d

Injection Date: 17-Apr-2024 23:41:30

Instrument ID: CHHPLC_X3

Operator ID: JZ/JG

Lims ID: IC INT/DMT 1

Worklist Smp#: 19

Client ID:

Injection Vol: 100.0 ul

Dil. Factor: 1.0000

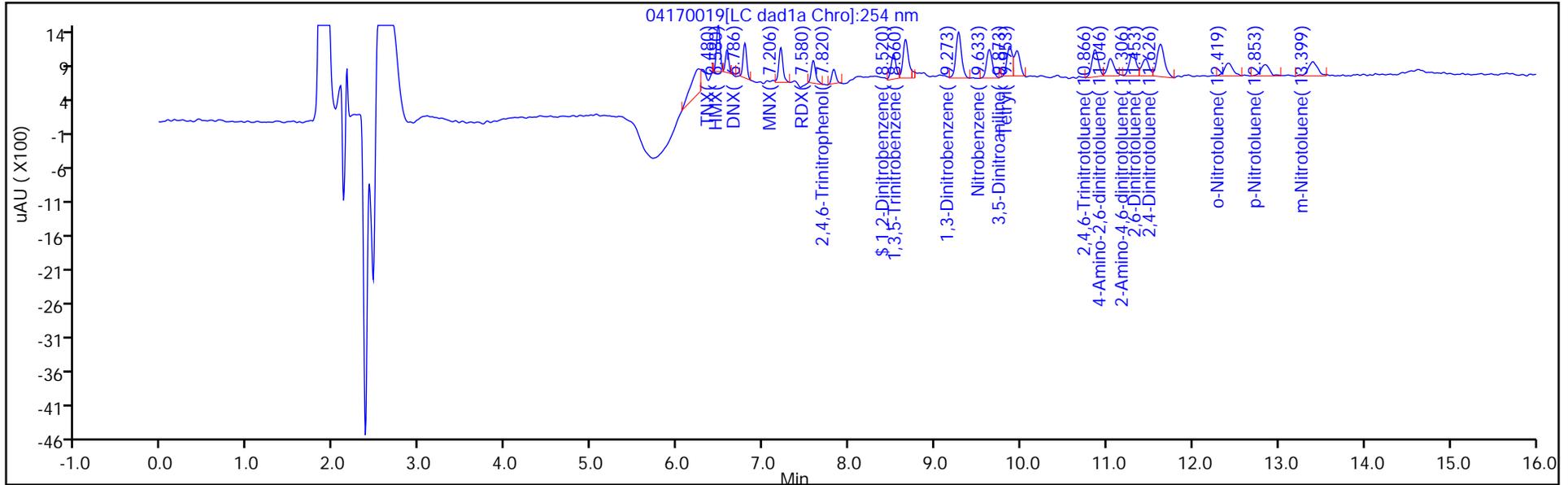
ALS Bottle#: 19

Method: 8330_X3

Limit Group: GCSV - 8330

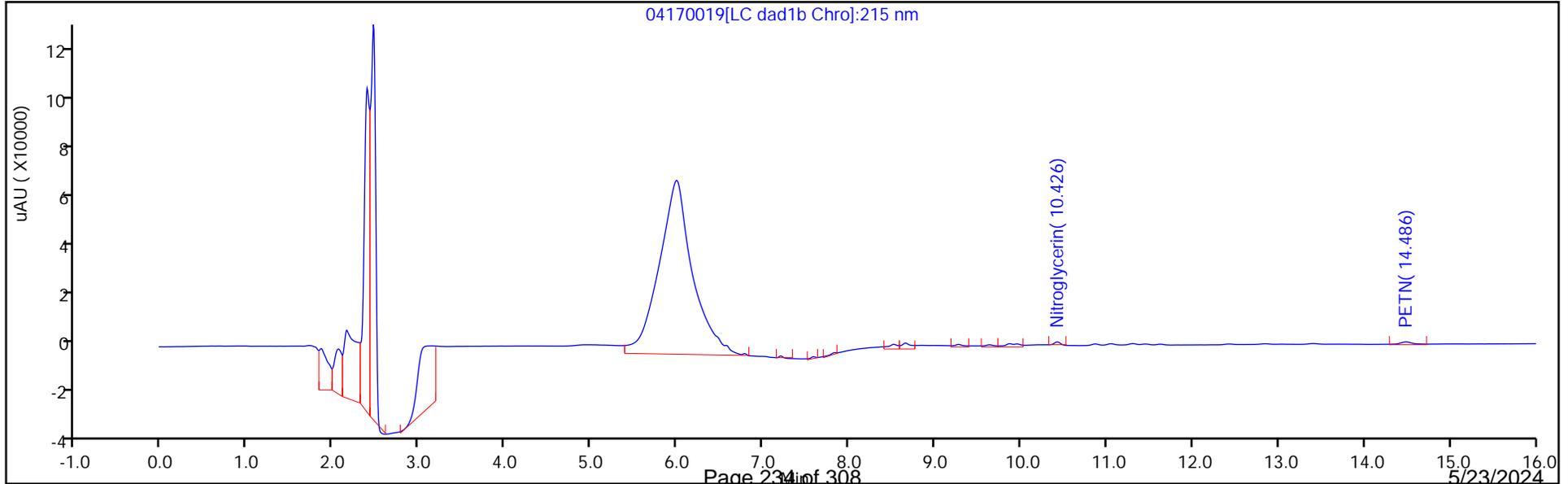
Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Eurofins Denver

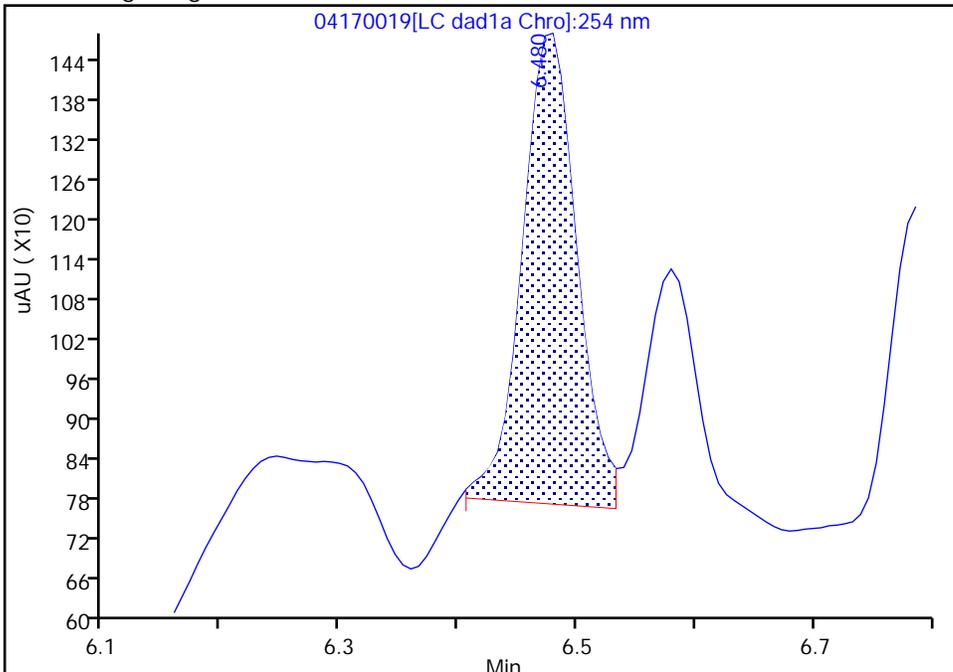
Data File:	\\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170019.d		
Injection Date:	17-Apr-2024 23:41:30	Instrument ID:	CHHPLC_X3
Lims ID:	IC INT/DMT 1		
Client ID:			
Operator ID:	JZ/JG	ALS Bottle#:	19 Worklist Smp#: 19
Injection Vol:	100.0 ul	Dil. Factor:	1.0000
Method:	8330_X3	Limit Group:	GCSV - 8330
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector:	LC DAD1B, 254 nm

3 TNX, CAS: 13980-04-6

Signal: 1

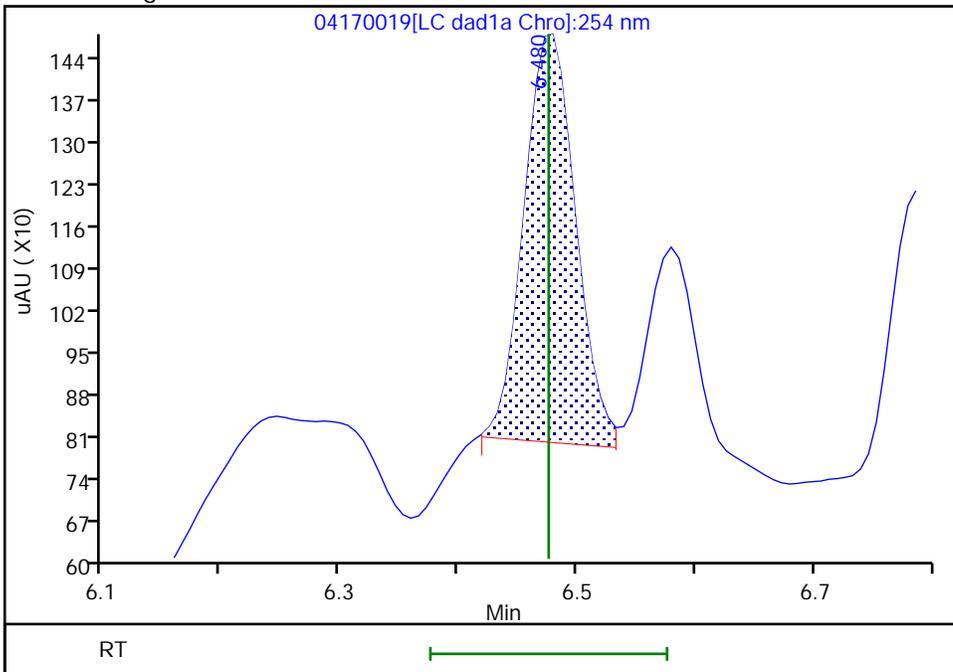
RT: 6.48
 Area: 2278
 Amount: 0.011305
 Amount Units: ug/mL

Processing Integration Results



RT: 6.48
 Area: 2051
 Amount: 0.010307
 Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:18:24 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

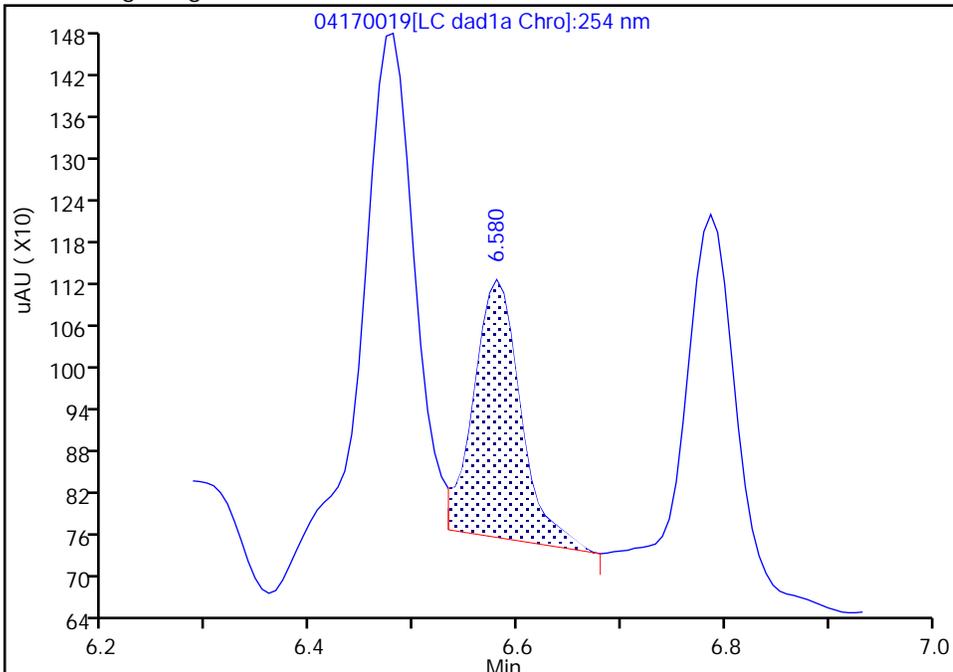
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170019.d
Injection Date: 17-Apr-2024 23:41:30 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 1
Client ID:
Operator ID: JZ/JG ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

4 HMX, CAS: 2691-41-0

Signal: 1

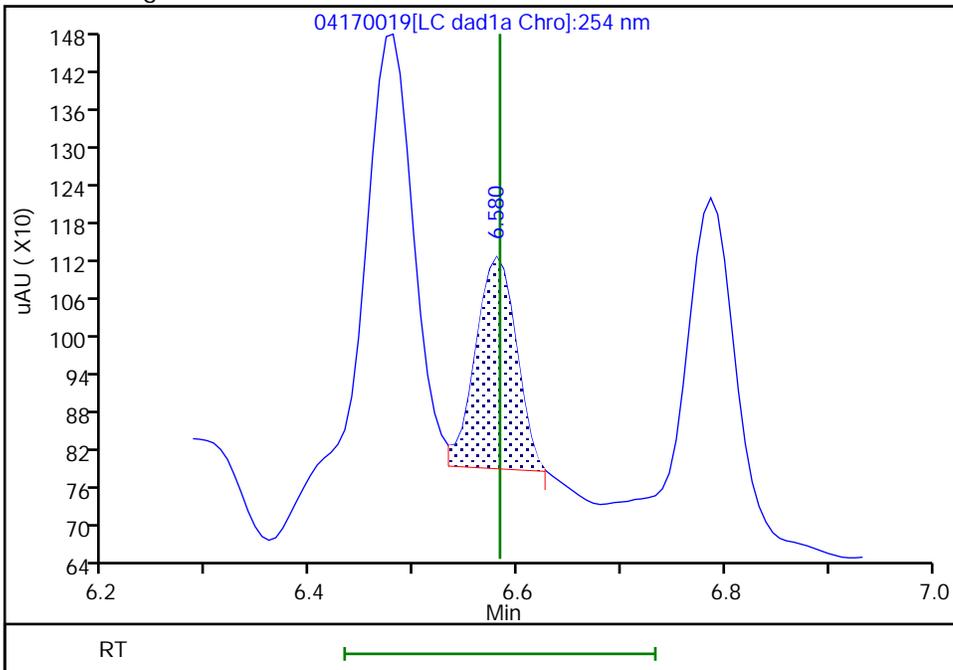
RT: 6.58
Area: 1171
Amount: 0.011907
Amount Units: ug/mL

Processing Integration Results



RT: 6.58
Area: 919
Amount: 0.009619
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:18:25 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

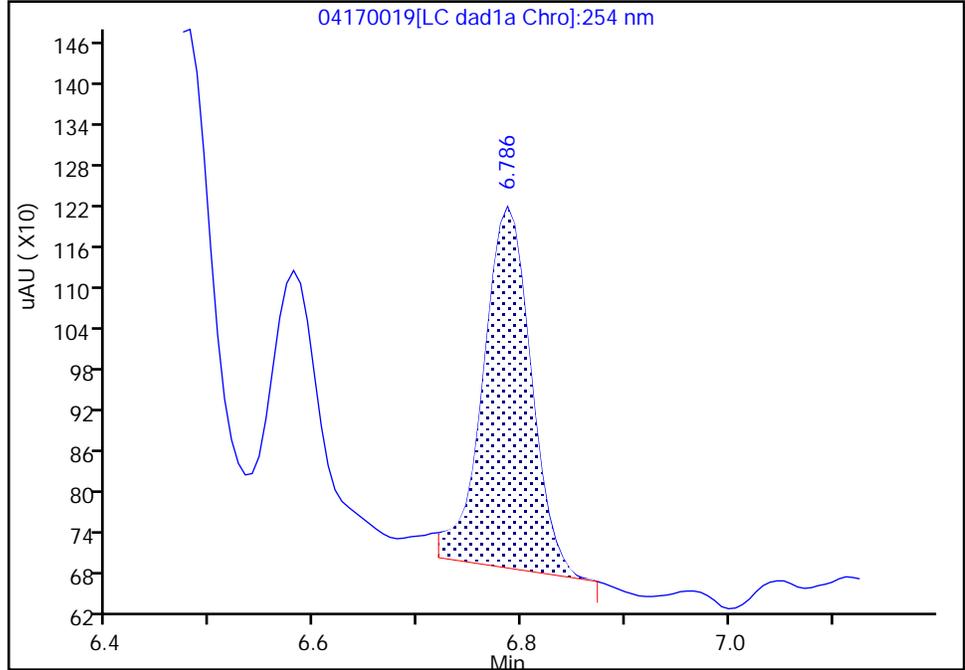
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170019.d
Injection Date: 17-Apr-2024 23:41:30 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 1
Client ID:
Operator ID: JZ/JG ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

6 DNX, CAS: 80251-29-2

Signal: 1

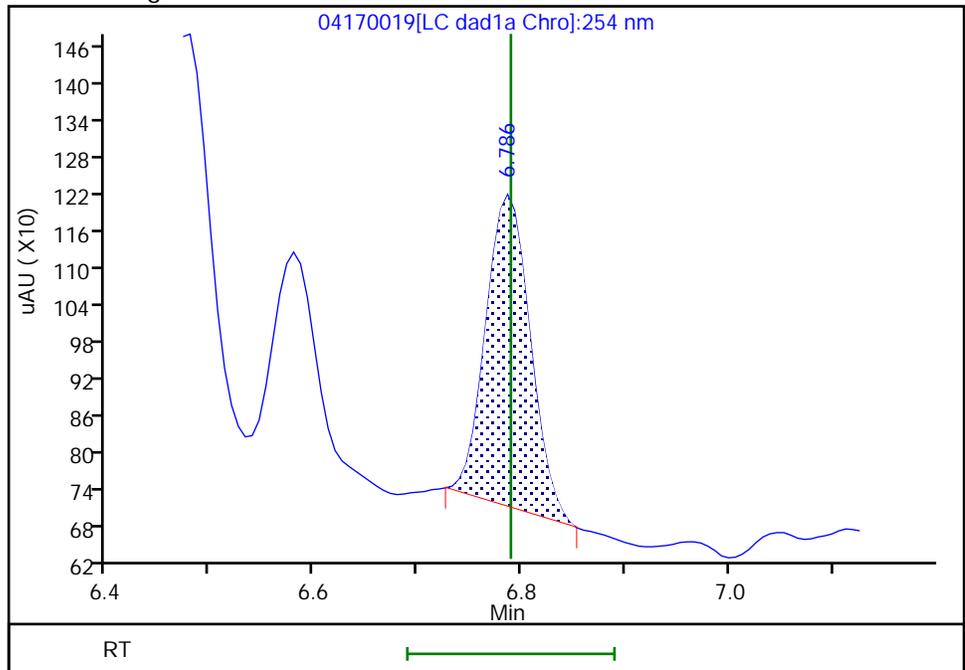
RT: 6.79
Area: 1700
Amount: 0.011386
Amount Units: ug/mL

Processing Integration Results



RT: 6.79
Area: 1516
Amount: 0.010295
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:18:35 -06:00:00 (UTC)

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Denver

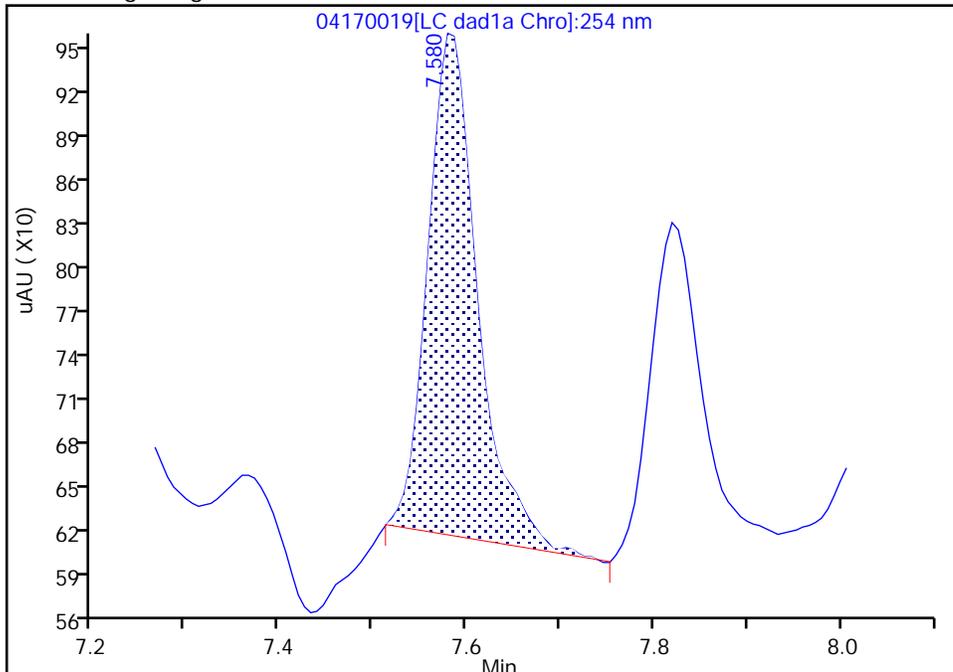
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170019.d
 Injection Date: 17-Apr-2024 23:41:30 Instrument ID: CHHPLC_X3
 Lims ID: IC INT/DMT 1
 Client ID:
 Operator ID: JZ/JG ALS Bottle#: 19 Worklist Smp#: 19
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Method: 8330_X3 Limit Group: GCSV - 8330
 Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

8 RDX, CAS: 121-82-4

Signal: 1

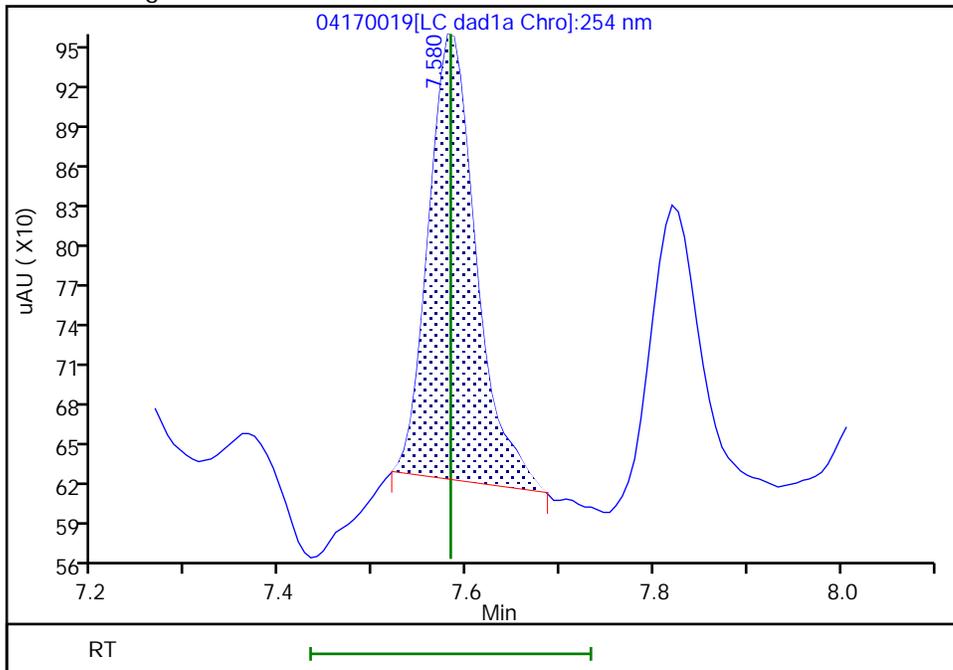
RT: 7.58
 Area: 1262
 Amount: 0.011308
 Amount Units: ug/mL

Processing Integration Results



RT: 7.58
 Area: 1187
 Amount: 0.010716
 Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:18:45 -06:00:00 (UTC)

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Denver

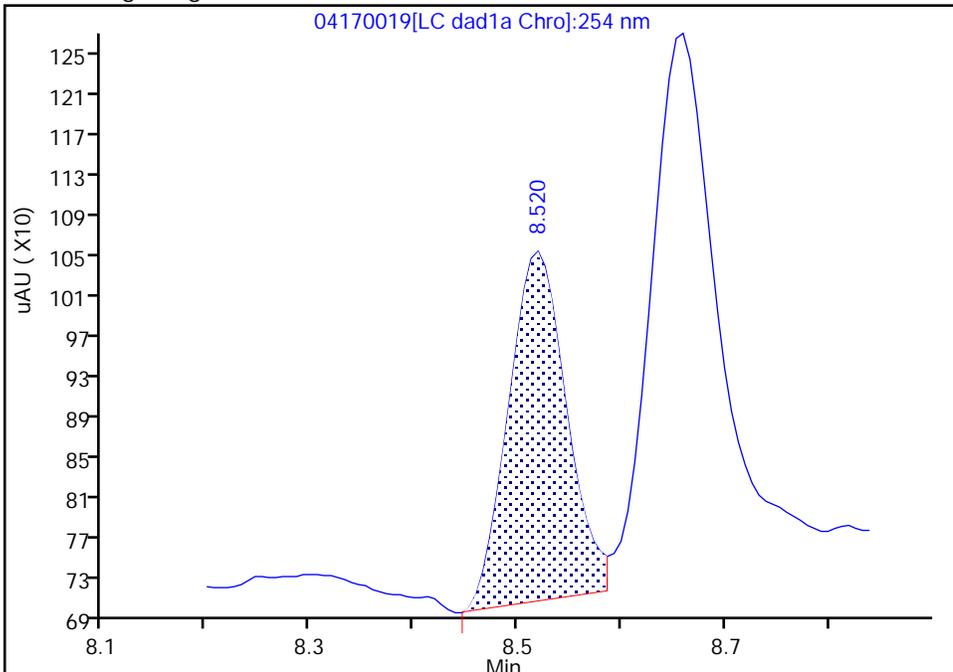
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170019.d
Injection Date: 17-Apr-2024 23:41:30 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 1
Client ID:
Operator ID: JZ/JG ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

\$ 10 1,2-Dinitrobenzene, CAS: 528-29-0

Signal: 1

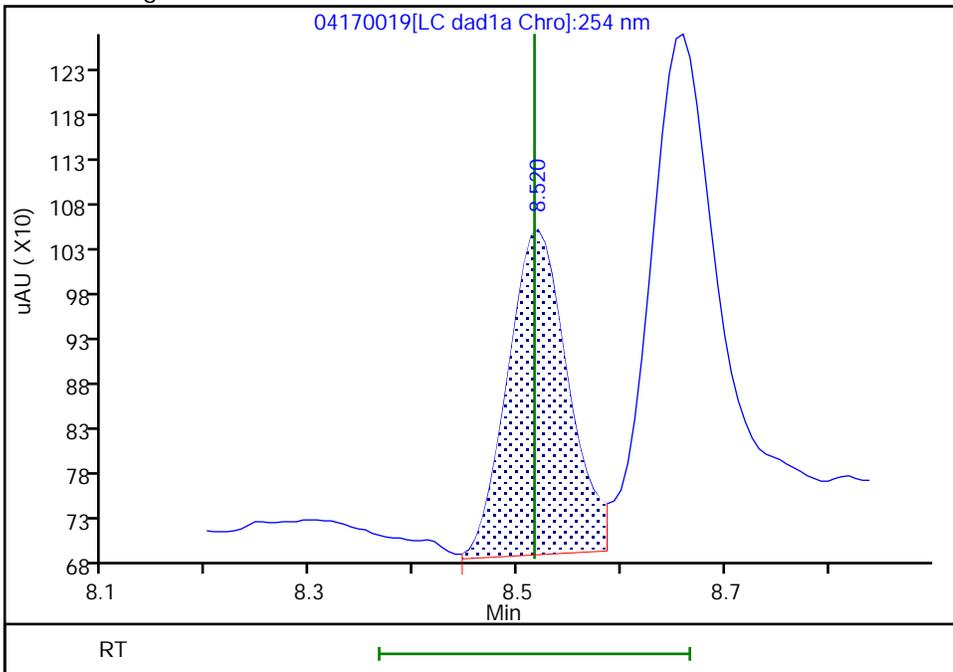
RT: 8.52
Area: 1357
Amount: 0.010216
Amount Units: ug/mL

Processing Integration Results



RT: 8.52
Area: 1445
Amount: 0.010265
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:19:23 -06:00:00 (UTC)

Audit Action: Assigned New Baseline

Audit Reason: Baseline

Euofins Denver

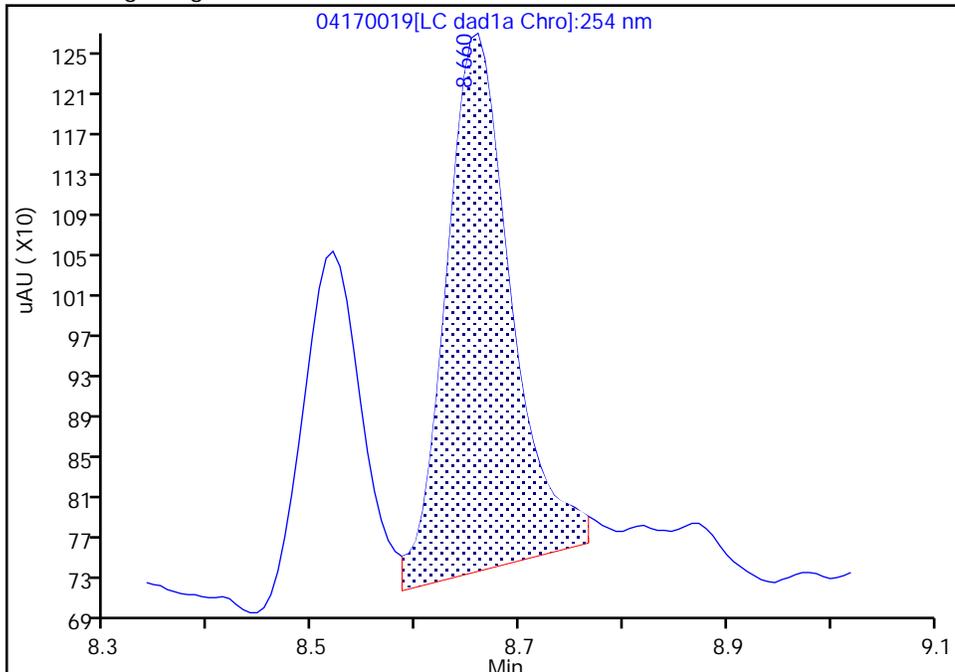
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170019.d
Injection Date: 17-Apr-2024 23:41:30 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 1
Client ID:
Operator ID: JZ/JG ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

11 1,3,5-Trinitrobenzene, CAS: 99-35-4

Signal: 1

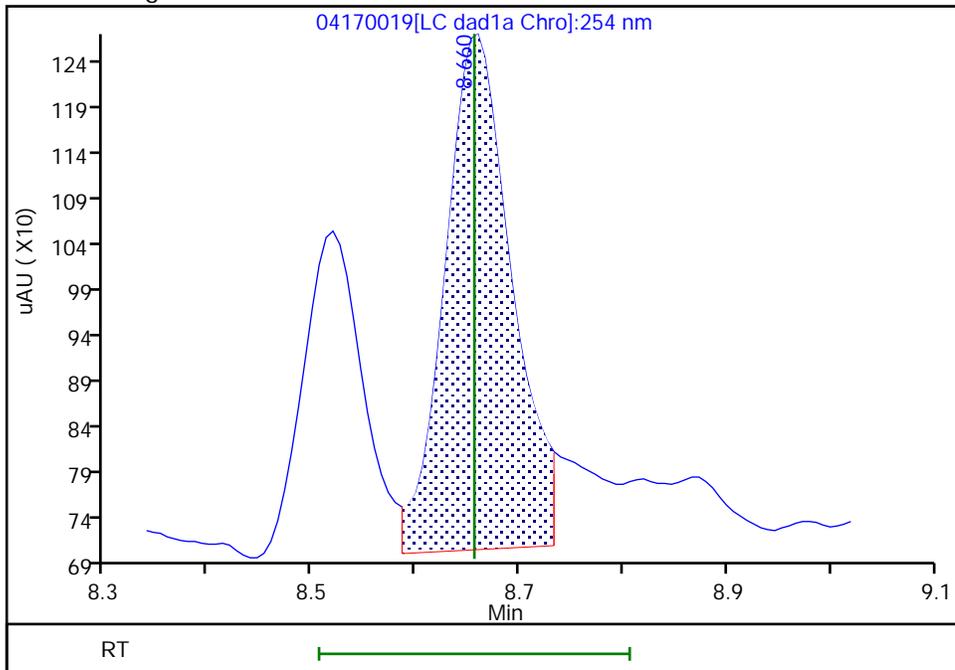
RT: 8.66
Area: 2346
Amount: 0.010661
Amount Units: ug/mL

Processing Integration Results



RT: 8.66
Area: 2549
Amount: 0.011438
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:19:28 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

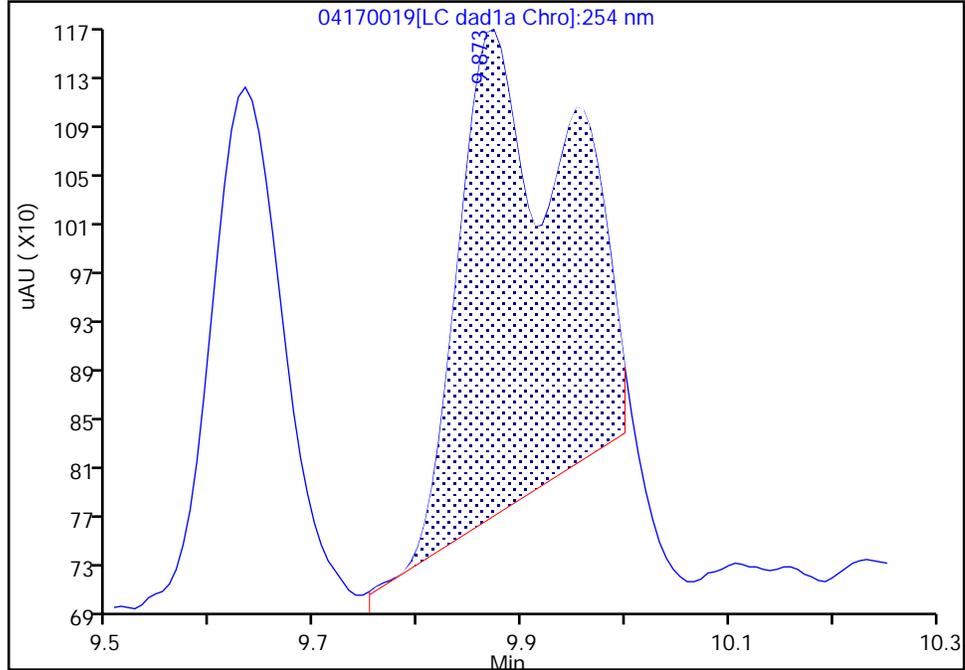
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170019.d
Injection Date: 17-Apr-2024 23:41:30 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 1
Client ID:
Operator ID: JZ/JG ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

14 3,5-Dinitroaniline, CAS: 618-87-1

Signal: 1

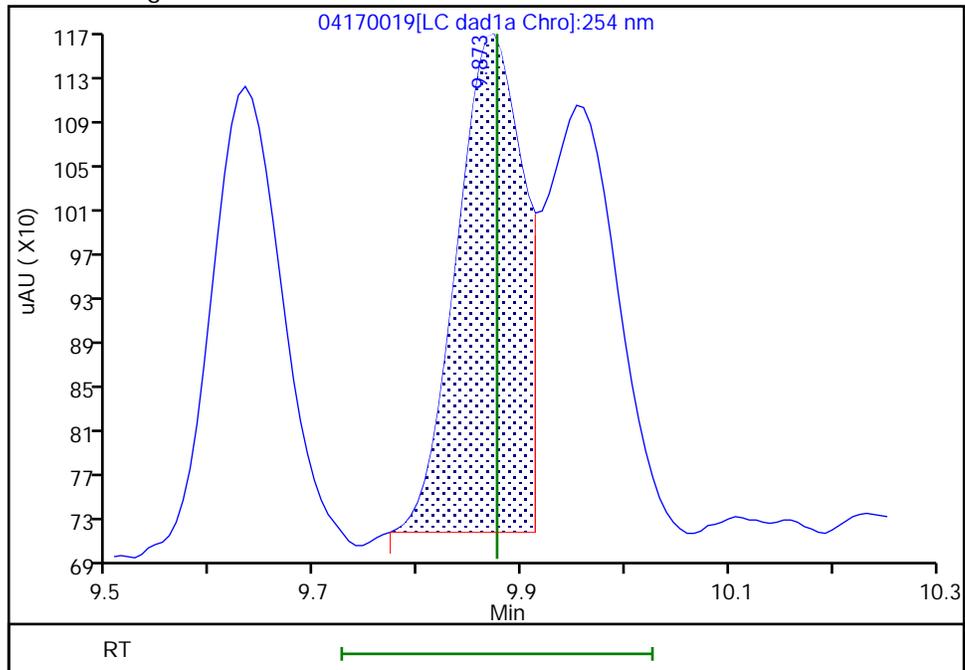
RT: 9.87
Area: 2822
Amount: 0.010781
Amount Units: ug/mL

Processing Integration Results



RT: 9.87
Area: 1971
Amount: 0.009992
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:18:02 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

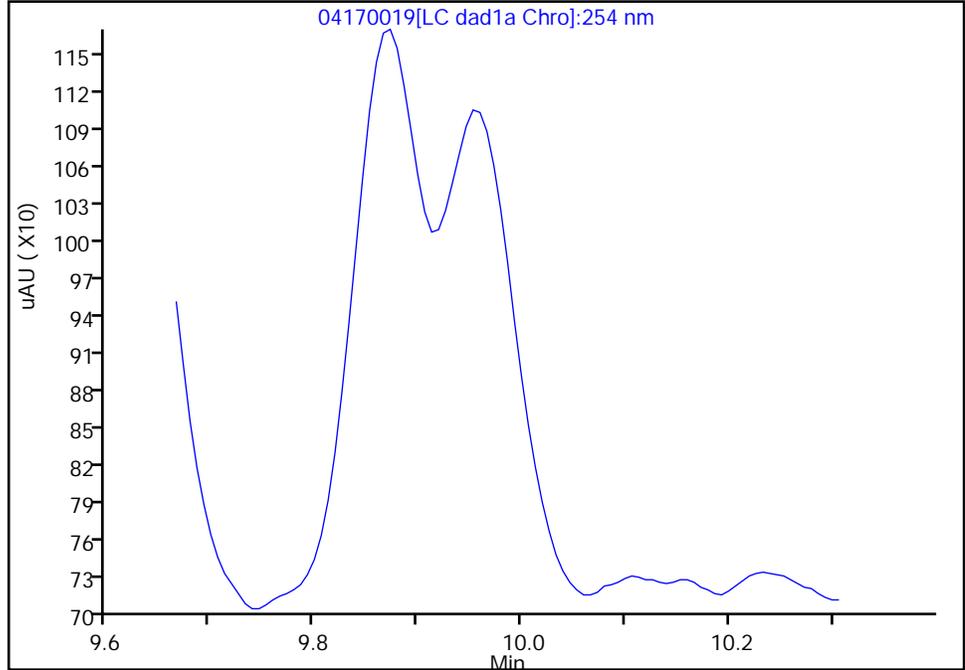
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170019.d
Injection Date: 17-Apr-2024 23:41:30 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 1
Client ID:
Operator ID: JZ/JG ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

15 Tetryl, CAS: 479-45-8

Signal: 1

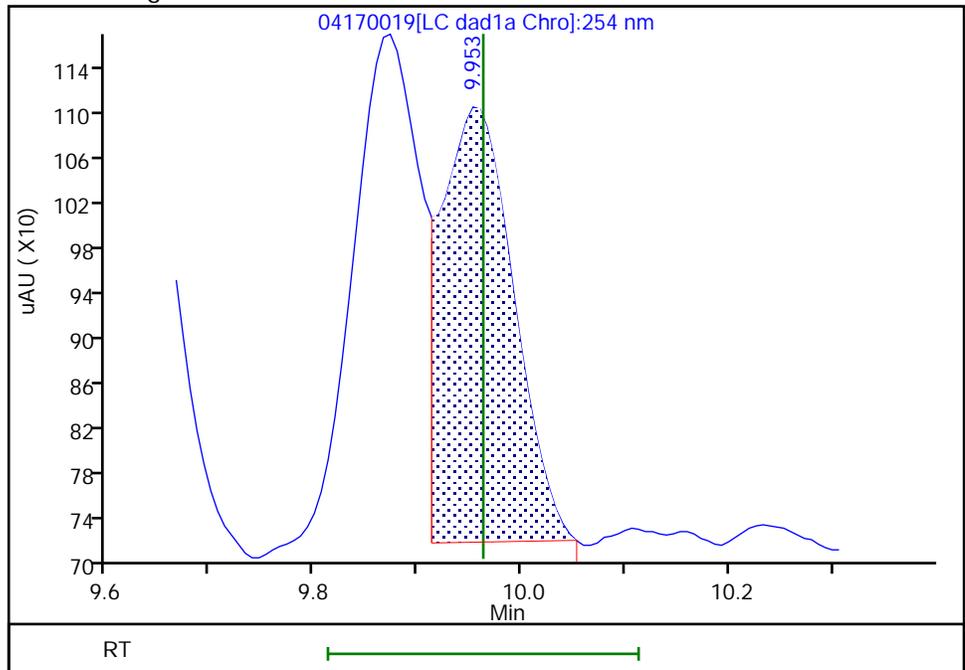
Not Detected
Expected RT: 9.96

Processing Integration Results



RT: 9.95
Area: 1835
Amount: 0.010105
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:18:04 -06:00:00 (UTC)

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline

Eurofins Denver

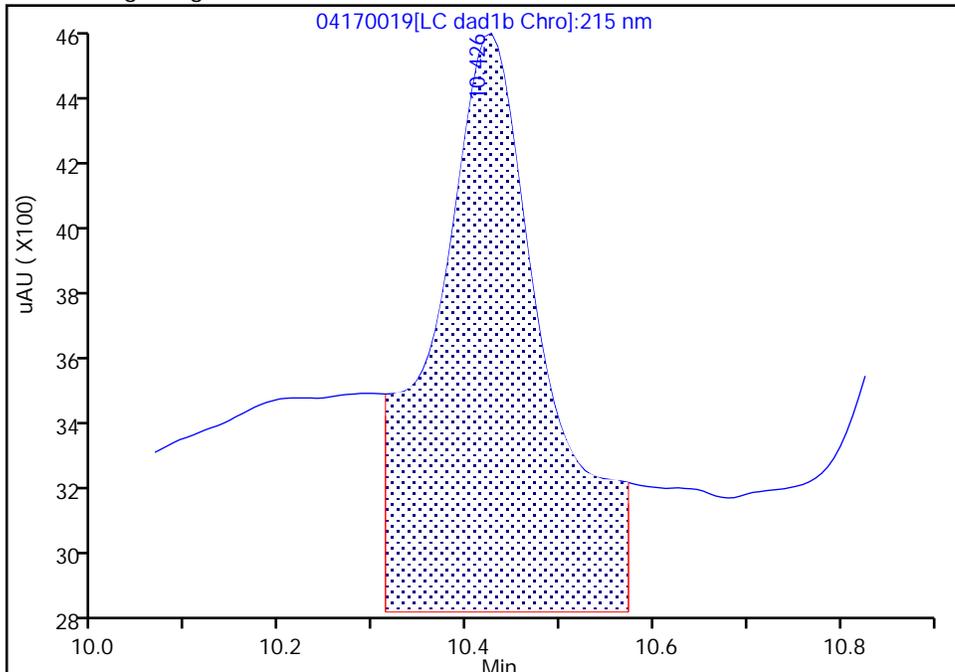
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170019.d
Injection Date: 17-Apr-2024 23:41:30 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 1
Client ID:
Operator ID: JZ/JG ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1C, 215 nm

16 Nitroglycerin, CAS: 55-63-0

Signal: 1

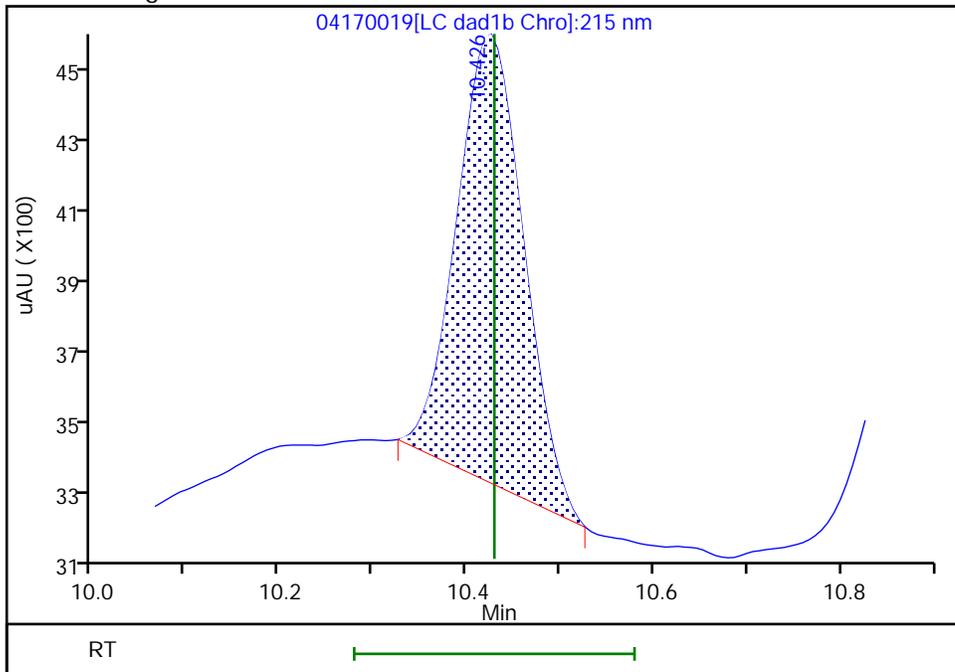
RT: 10.43
Area: 14354
Amount: 0.189635
Amount Units: ug/mL

Processing Integration Results



RT: 10.43
Area: 6048
Amount: 0.090997
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:17:39 -06:00:00 (UTC)
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Denver

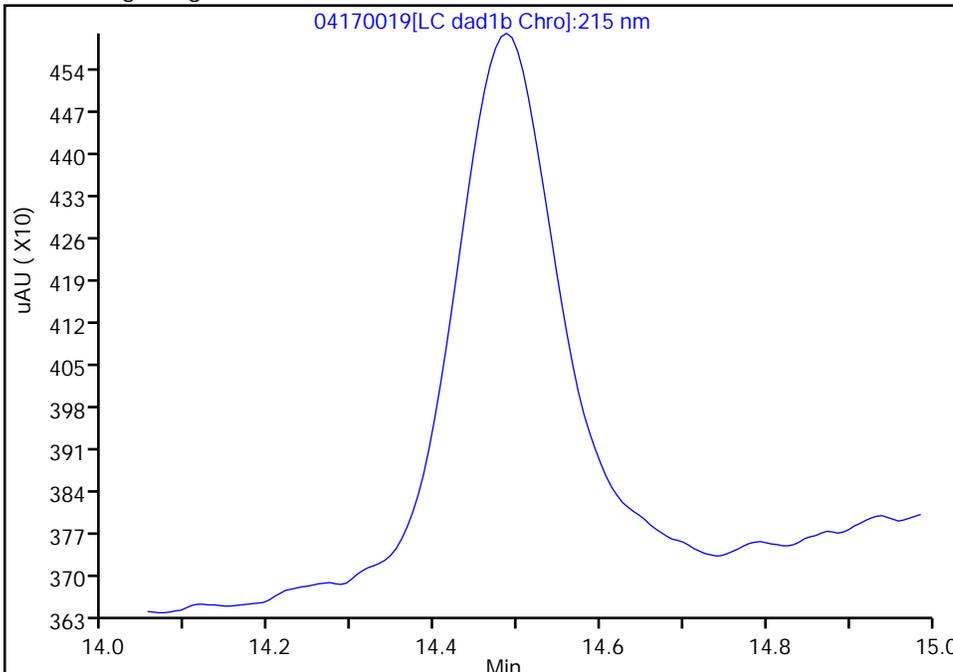
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170019.d
Injection Date: 17-Apr-2024 23:41:30 Instrument ID: CHHPLC_X3
Lims ID: IC INT/DMT 1
Client ID:
Operator ID: JZ/JG ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1C, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

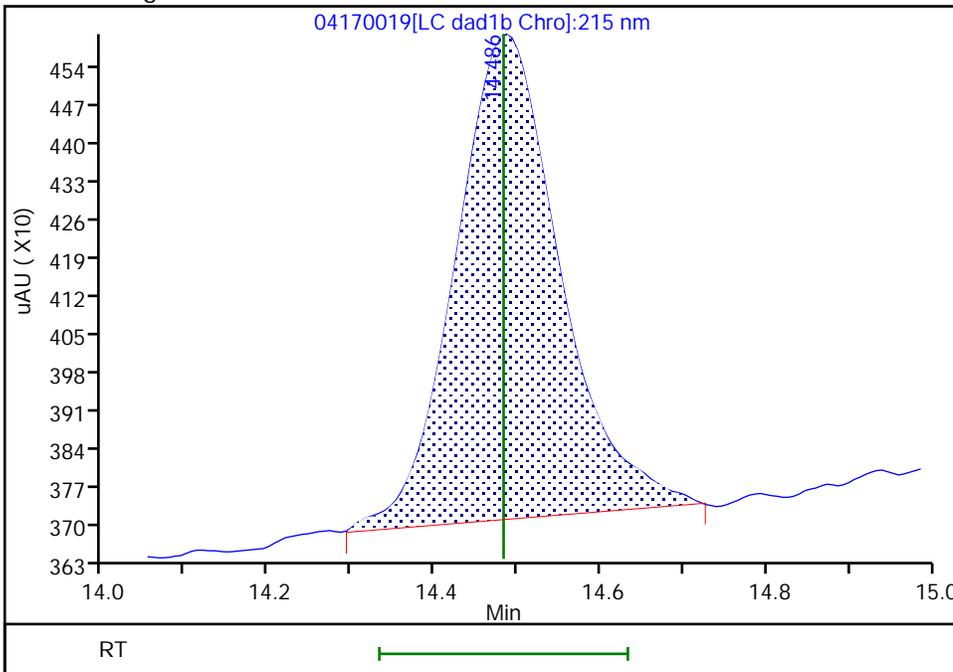
Not Detected
Expected RT: 14.48

Processing Integration Results



Manual Integration Results

RT: 14.49
Area: 7807
Amount: 0.108526
Amount Units: ug/mL



Reviewer: LV5D, 18-Apr-2024 11:17:47 -06:00:00 (UTC)

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline

Calibration

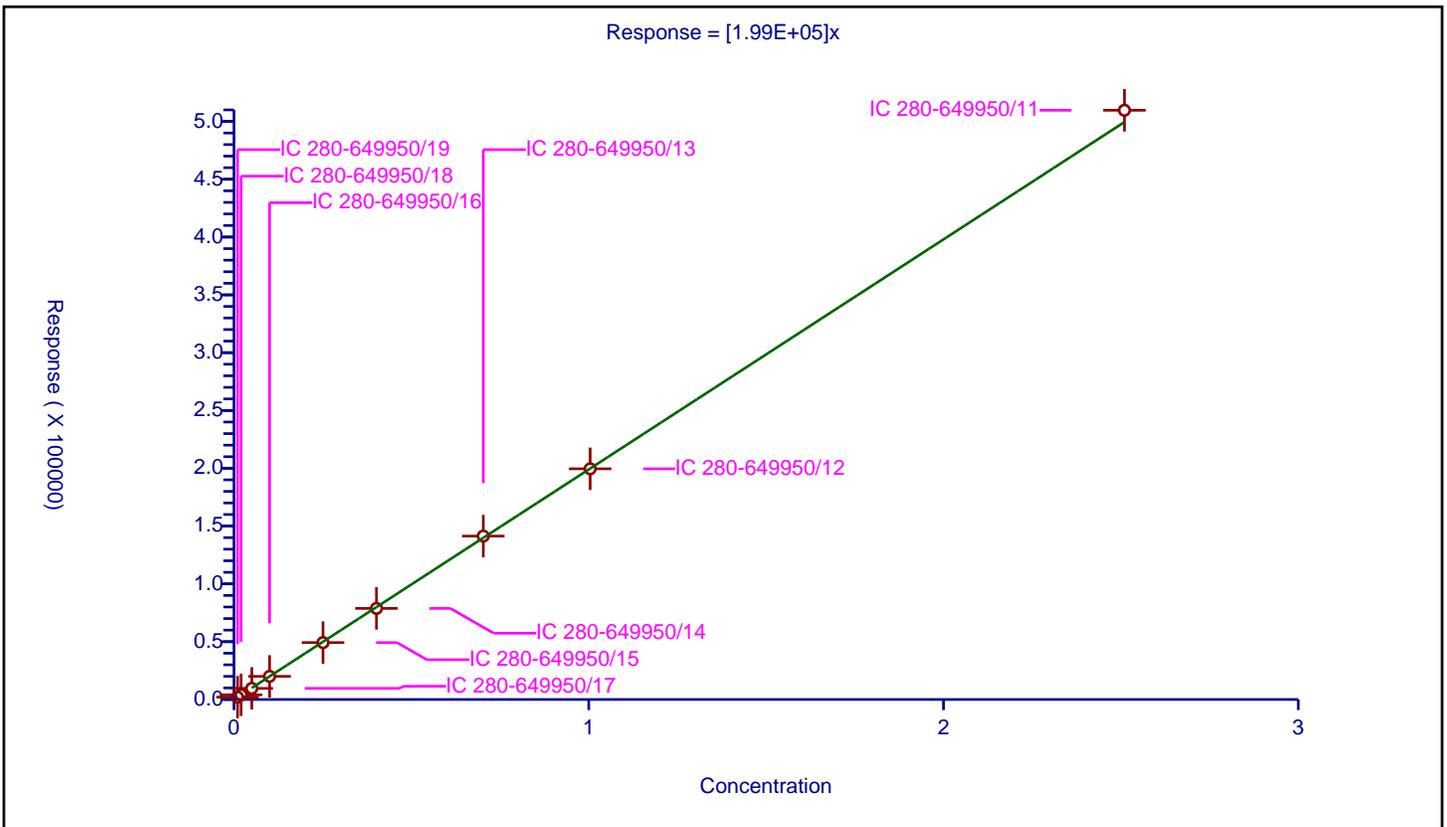
/ TNX

Curve Type: Average
Weighting: Conc_Sq
Origin: Force
Dependency: Response
Calib Mode: ESTD
Response Base: AREA
RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	1.99E+05

Error Coefficients	
Relative Standard Deviation:	1.9

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01004	2051.0			204282.868526	Y
2	IC 280-649950/18	0.02008	4023.0			200348.605578	Y
3	IC 280-649950/17	0.0502	9628.0			191792.828685	Y
4	IC 280-649950/16	0.1004	20006.0			199262.948207	Y
5	IC 280-649950/15	0.251	49234.0			196151.394422	Y
6	IC 280-649950/14	0.4016	78789.0			196187.749004	Y
7	IC 280-649950/13	0.7028	141333.0			201099.88617	Y
8	IC 280-649950/12	1.004	199537.0			198742.031873	Y
9	IC 280-649950/11	2.51	509682.0			203060.557769	Y



Calibration

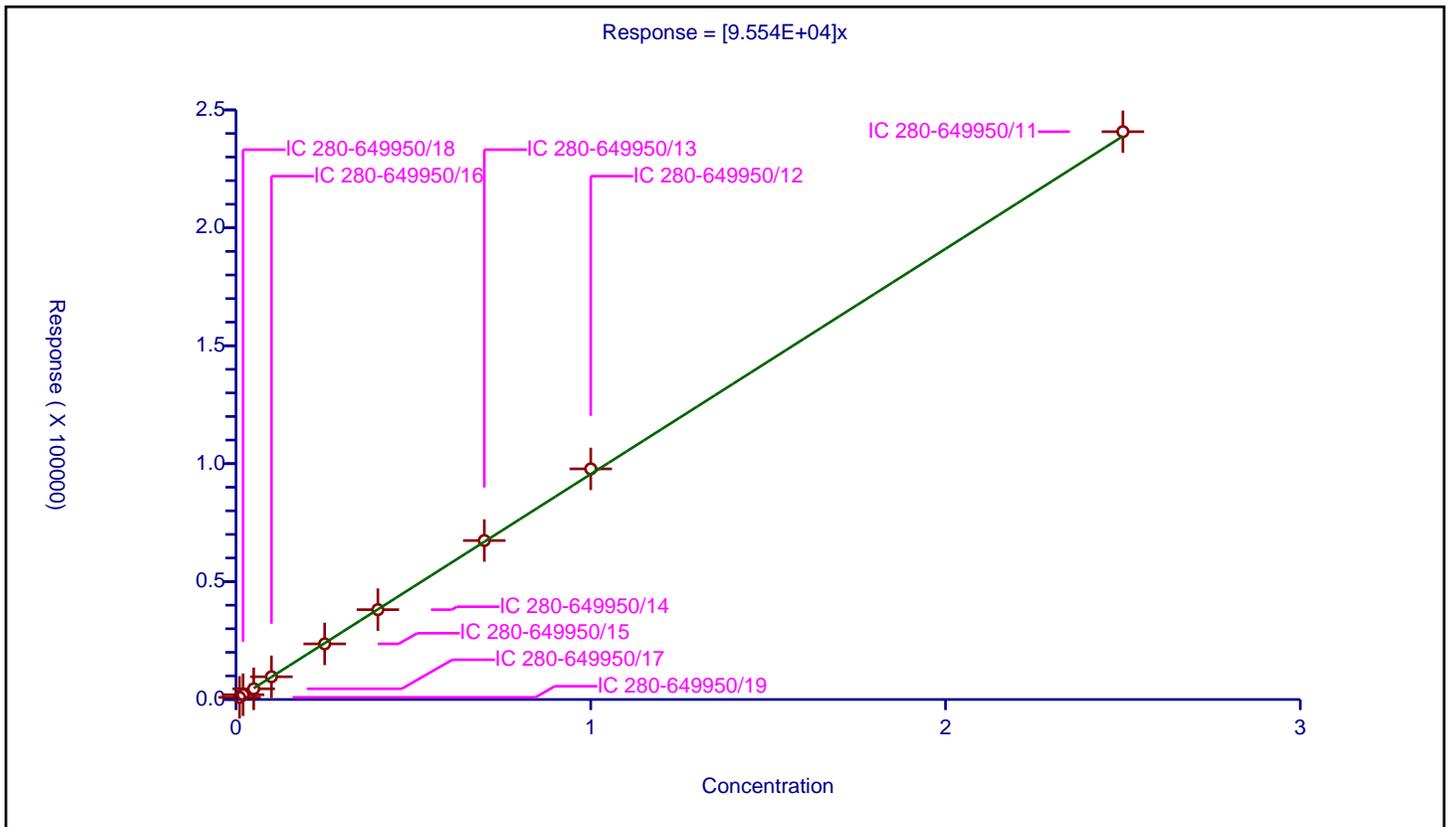
/ HMX

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	9.554E+04

Error Coefficients	
Relative Standard Deviation:	3.2

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01	919.0			91900.0	Y
2	IC 280-649950/18	0.02	2017.0			100850.0	Y
3	IC 280-649950/17	0.05	4536.0			90720.0	Y
4	IC 280-649950/16	0.1	9645.0			96450.0	Y
5	IC 280-649950/15	0.25	23583.0			94332.0	Y
6	IC 280-649950/14	0.4	38101.0			95252.5	Y
7	IC 280-649950/13	0.7	67408.0			96297.142857	Y
8	IC 280-649950/12	1.0	97787.0			97787.0	Y
9	IC 280-649950/11	2.5	240762.0			96304.8	Y



Calibration

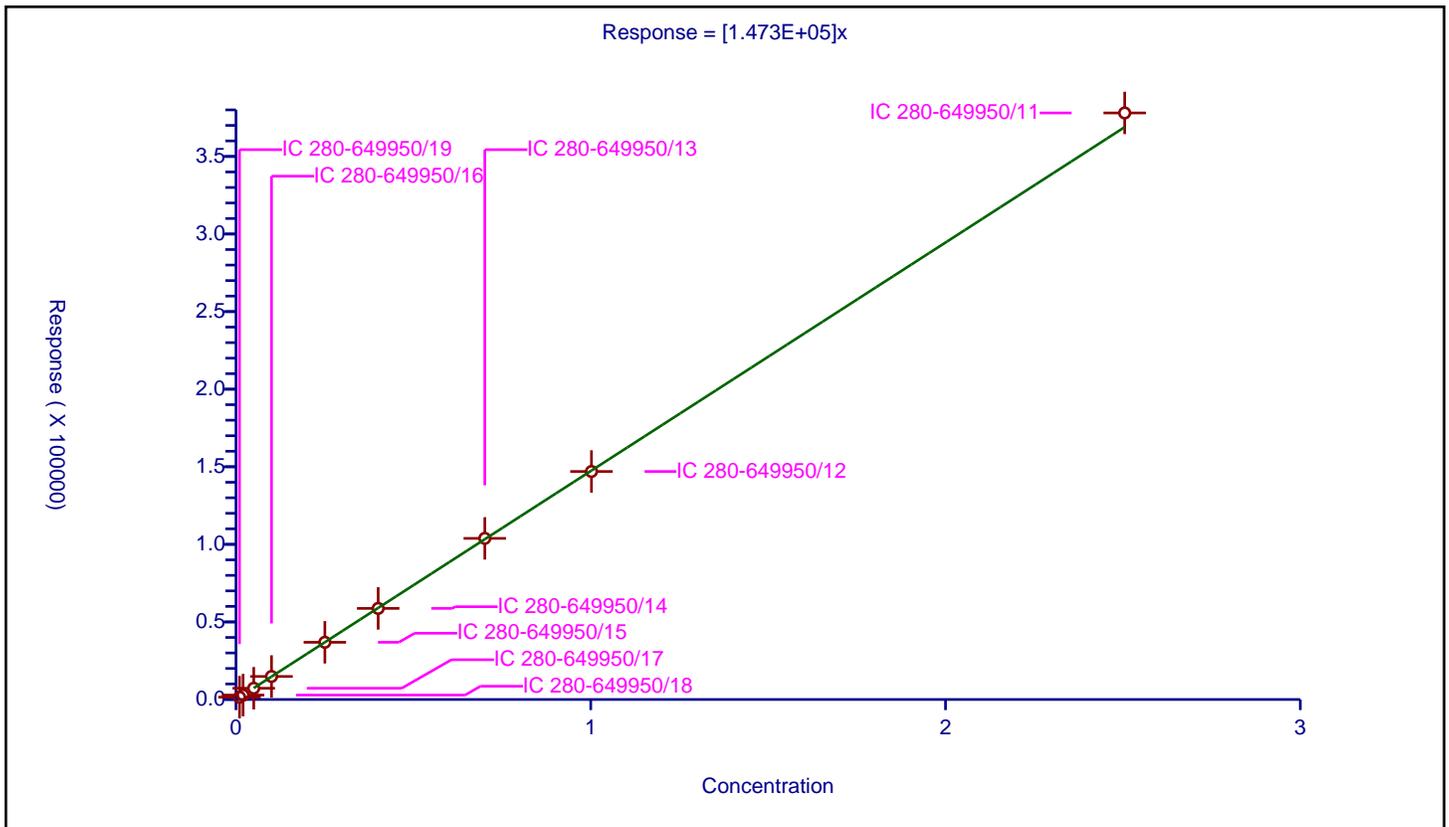
/ DNX

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	1.473E+05

Error Coefficients	
Relative Standard Deviation:	2.0

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01002	1516.0			151297.40519	Y
2	IC 280-649950/18	0.02004	2843.0			141866.267465	Y
3	IC 280-649950/17	0.0501	7258.0			144870.259481	Y
4	IC 280-649950/16	0.1002	14834.0			148043.912176	Y
5	IC 280-649950/15	0.2505	36872.0			147193.612774	Y
6	IC 280-649950/14	0.4008	58701.0			146459.580838	Y
7	IC 280-649950/13	0.7014	103834.0			148038.209296	Y
8	IC 280-649950/12	1.002	146952.0			146658.682635	Y
9	IC 280-649950/11	2.505	378026.0			150908.582834	Y



Calibration

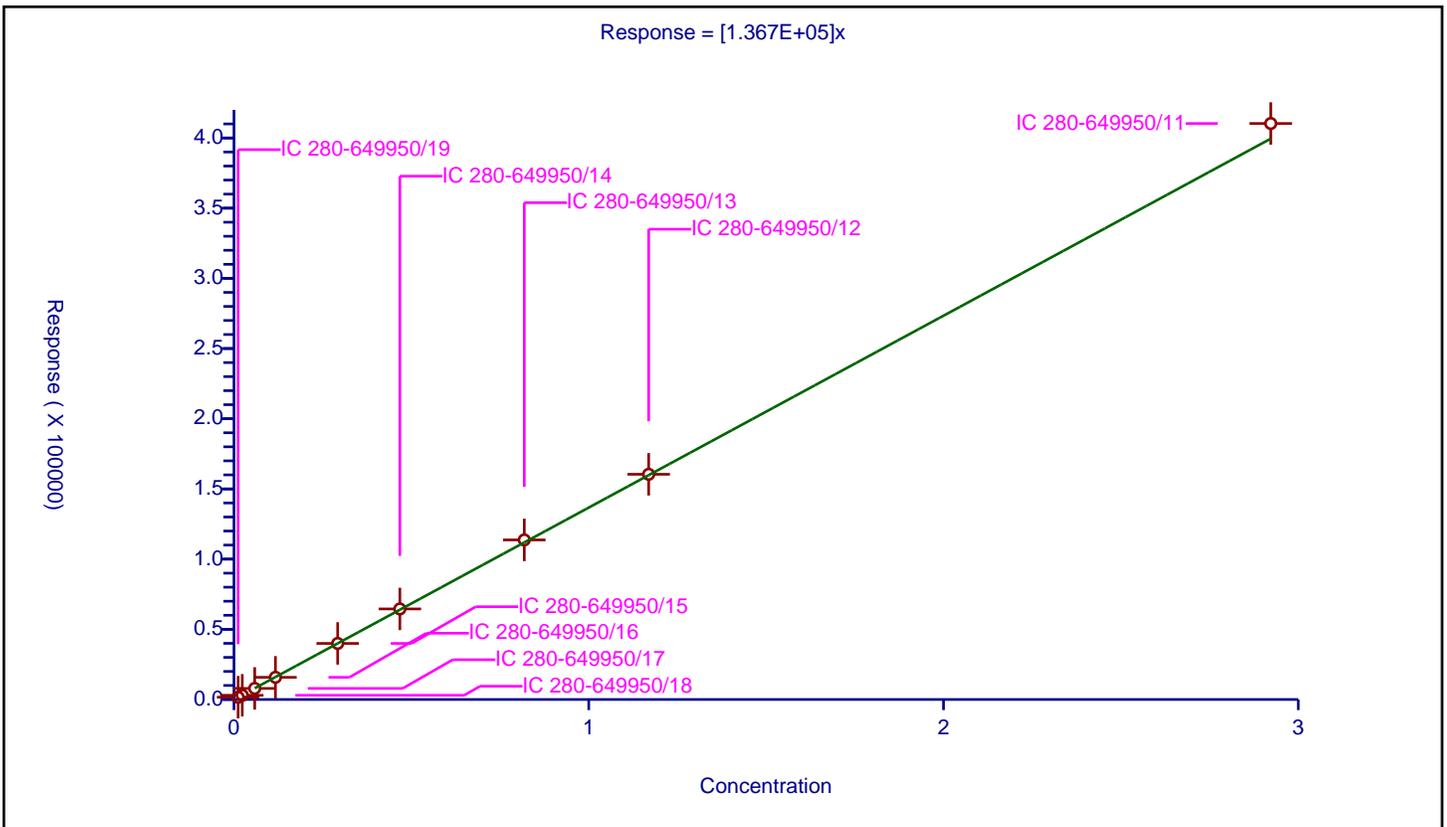
/ MNX

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	1.367E+05

Error Coefficients	
Relative Standard Deviation:	2.9

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01169	1649.0			141060.735672	Y
2	IC 280-649950/18	0.02338	2991.0			127929.854577	Y
3	IC 280-649950/17	0.05845	7887.0			134935.842601	Y
4	IC 280-649950/16	0.1169	15807.0			135218.135158	Y
5	IC 280-649950/15	0.29225	39930.0			136629.597947	Y
6	IC 280-649950/14	0.4676	64510.0			137959.794696	Y
7	IC 280-649950/13	0.8183	113678.0			138919.711597	Y
8	IC 280-649950/12	1.169	160428.0			137235.243798	Y
9	IC 280-649950/11	2.9225	410302.0			140394.183062	Y



Calibration

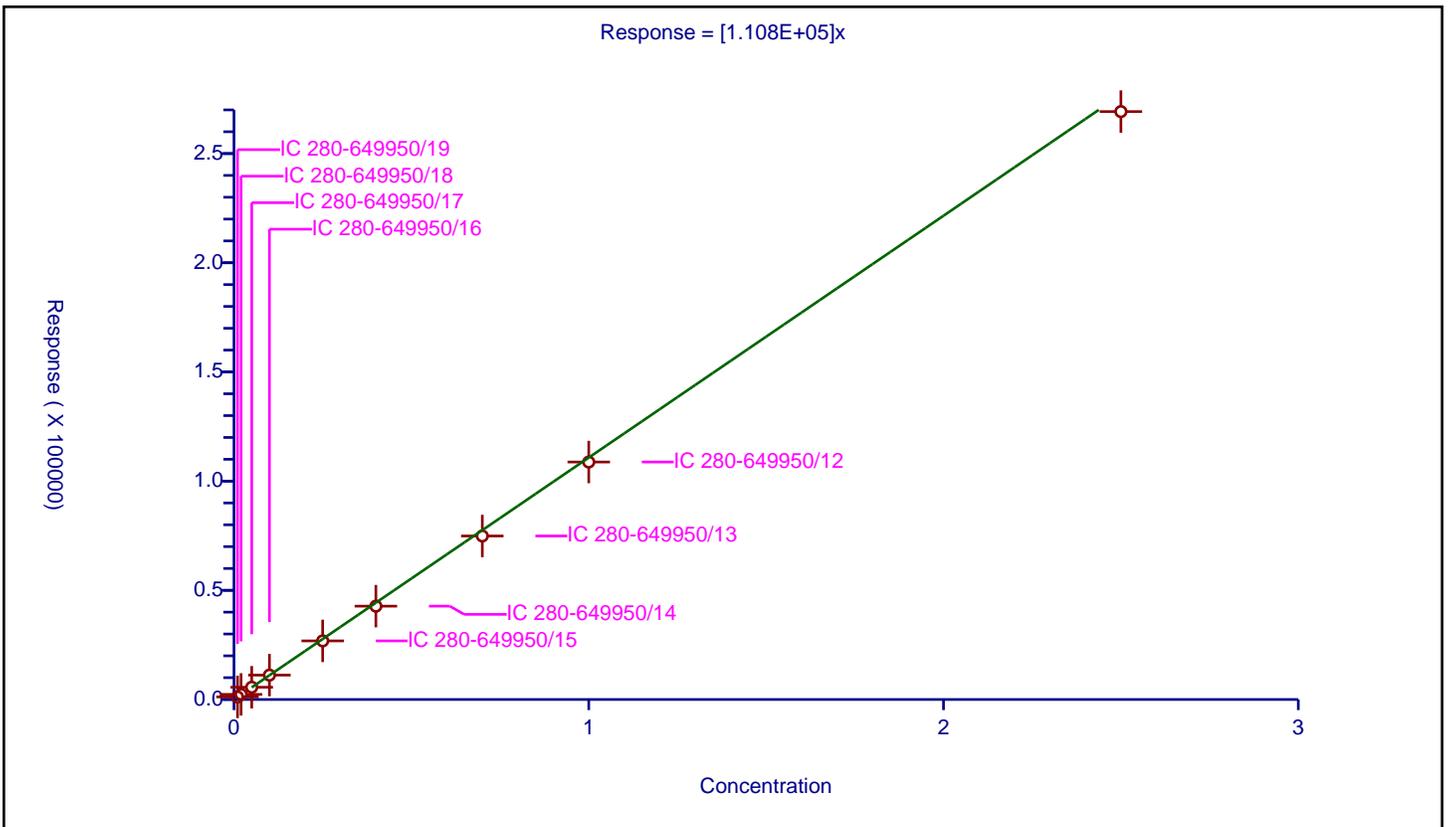
/ RDX

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	1.108E+05

Error Coefficients	
Relative Standard Deviation:	4.0

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01	1187.0			118700.0	Y
2	IC 280-649950/18	0.02	2334.0			116700.0	Y
3	IC 280-649950/17	0.05	5612.0			112240.0	Y
4	IC 280-649950/16	0.1	11162.0			111620.0	Y
5	IC 280-649950/15	0.25	26844.0			107376.0	Y
6	IC 280-649950/14	0.4	42747.0			106867.5	Y
7	IC 280-649950/13	0.7	74871.0			106958.571429	Y
8	IC 280-649950/12	1.0	108752.0			108752.0	Y
9	IC 280-649950/11	2.5	269224.0			107689.6	Y



Calibration

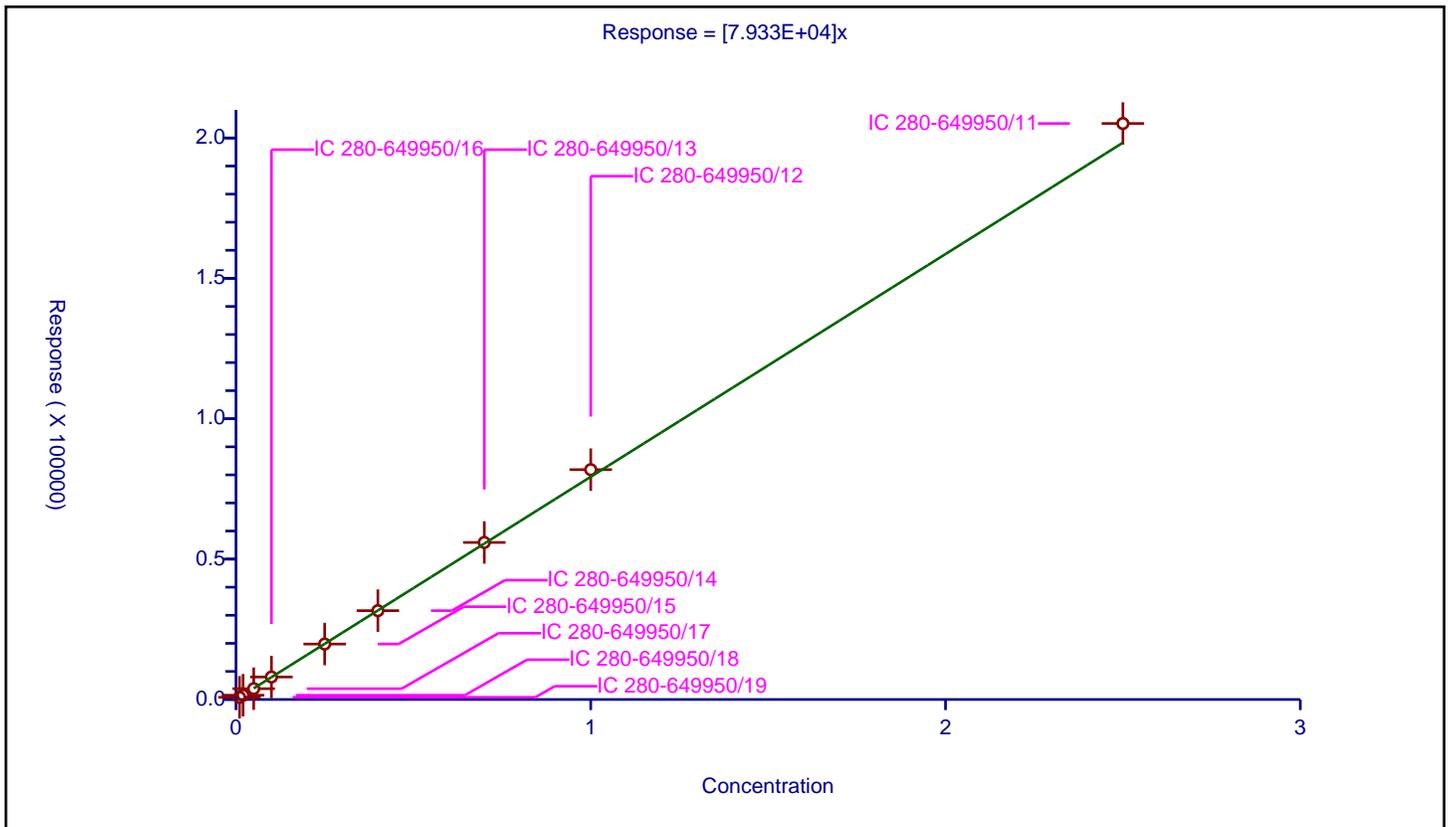
/ 2,4,6-Trinitrophenol

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	7.933E+04

Error Coefficients	
Relative Standard Deviation:	2.5

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01	787.0			78700.0	Y
2	IC 280-649950/18	0.02	1524.0			76200.0	Y
3	IC 280-649950/17	0.05	3847.0			76940.0	Y
4	IC 280-649950/16	0.1	8016.0			80160.0	Y
5	IC 280-649950/15	0.25	19748.0			78992.0	Y
6	IC 280-649950/14	0.4	31644.0			79110.0	Y
7	IC 280-649950/13	0.7	55934.0			79905.714286	Y
8	IC 280-649950/12	1.0	81861.0			81861.0	Y
9	IC 280-649950/11	2.5	205156.0			82062.4	Y



Calibration

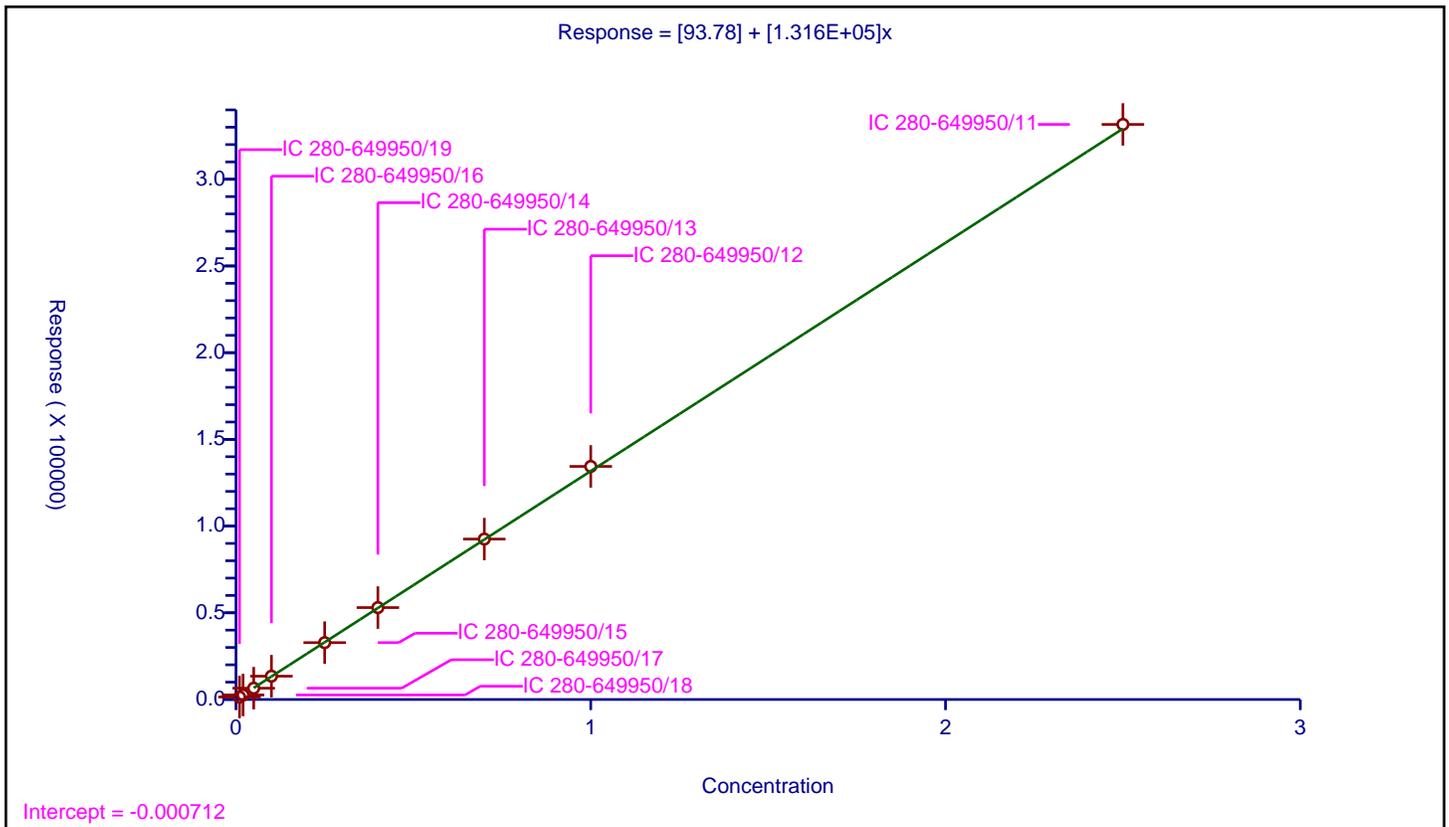
/ 1,2-Dinitrobenzene

Curve Type: Linear
 Weighting: Conc_Sq
 Origin: None
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	93.78
Slope:	1.316E+05

Error Coefficients	
Relative Standard Deviation:	2.5

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01	1445.0			144500.0	Y
2	IC 280-649950/18	0.02	2603.0			130150.0	Y
3	IC 280-649950/17	0.05	6521.0			130420.0	Y
4	IC 280-649950/16	0.1	13450.0			134500.0	Y
5	IC 280-649950/15	0.25	32787.0			131148.0	Y
6	IC 280-649950/14	0.4	52999.0			132497.5	Y
7	IC 280-649950/13	0.7	92511.0			132158.571429	Y
8	IC 280-649950/12	1.0	134411.0			134411.0	Y
9	IC 280-649950/11	2.5	331618.0			132647.2	Y



Calibration

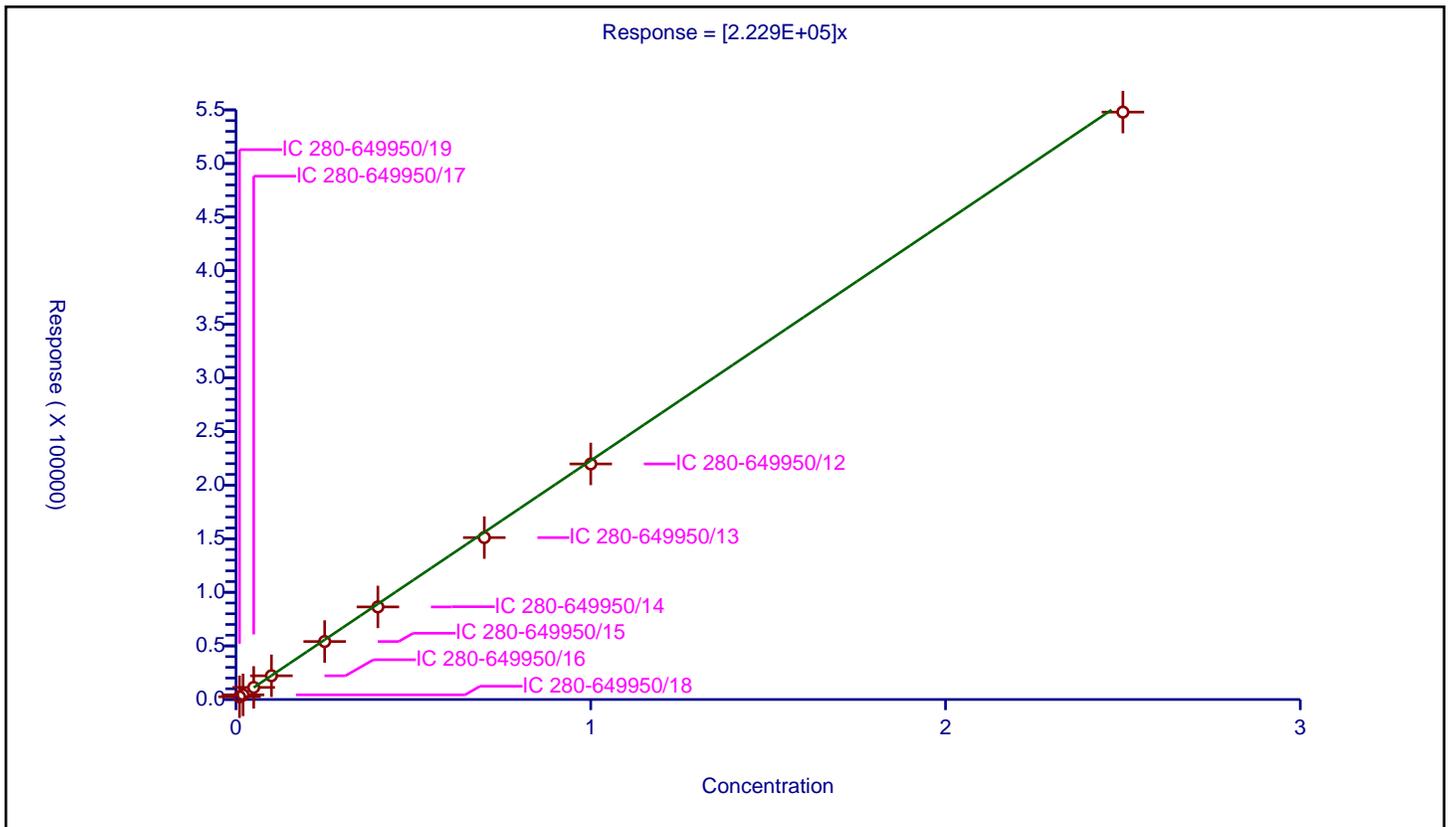
/ 1,3,5-Trinitrobenzene

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	2.229E+05

Error Coefficients	
Relative Standard Deviation:	5.6

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01	2549.0			254900.0	Y
2	IC 280-649950/18	0.02	4349.0			217450.0	Y
3	IC 280-649950/17	0.05	11258.0			225160.0	Y
4	IC 280-649950/16	0.1	22129.0			221290.0	Y
5	IC 280-649950/15	0.25	54073.0			216292.0	Y
6	IC 280-649950/14	0.4	86362.0			215905.0	Y
7	IC 280-649950/13	0.7	151045.0			215778.571429	Y
8	IC 280-649950/12	1.0	219723.0			219723.0	Y
9	IC 280-649950/11	2.5	547952.0			219180.8	Y



Calibration

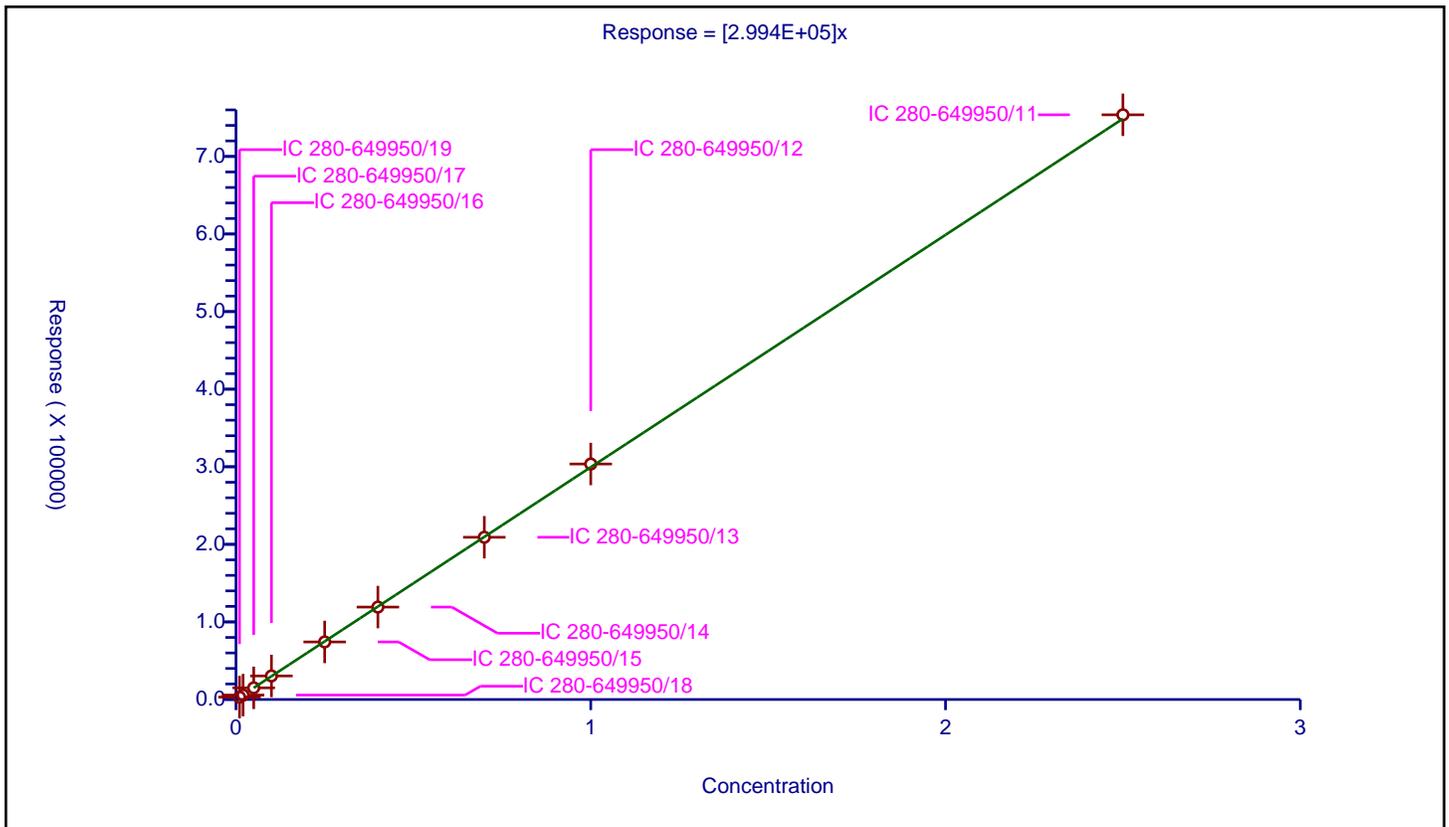
/ 1,3-Dinitrobenzene

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	2.994E+05

Error Coefficients	
Relative Standard Deviation:	2.3

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01	3086.0			308600.0	Y
2	IC 280-649950/18	0.02	5678.0			283900.0	Y
3	IC 280-649950/17	0.05	15023.0			300460.0	Y
4	IC 280-649950/16	0.1	30359.0			303590.0	Y
5	IC 280-649950/15	0.25	74190.0			296760.0	Y
6	IC 280-649950/14	0.4	119137.0			297842.5	Y
7	IC 280-649950/13	0.7	209122.0			298745.714286	Y
8	IC 280-649950/12	1.0	303550.0			303550.0	Y
9	IC 280-649950/11	2.5	753680.0			301472.0	Y



Calibration

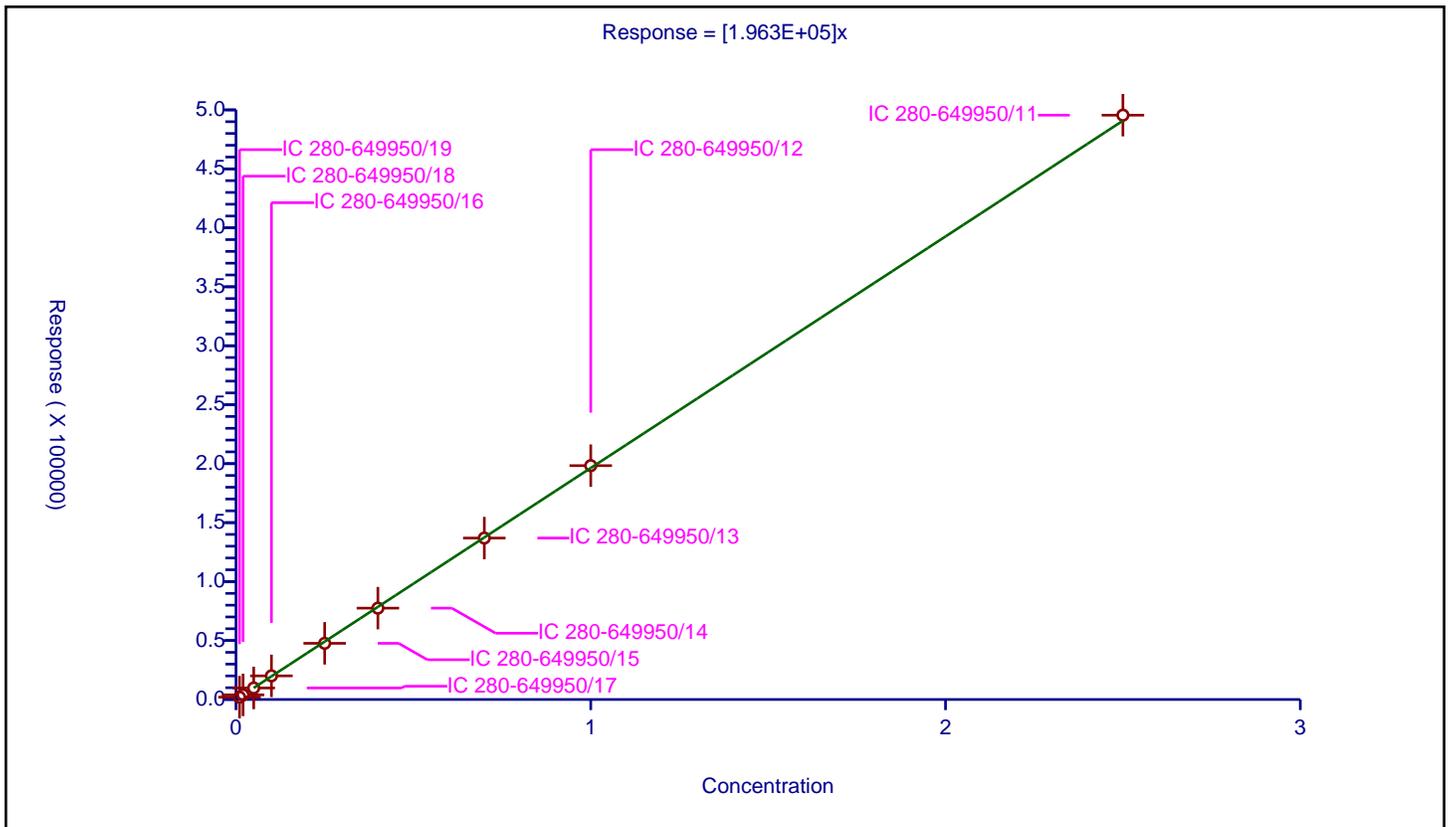
/ Nitrobenzene

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	1.963E+05

Error Coefficients	
Relative Standard Deviation:	1.5

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01	1985.0			198500.0	Y
2	IC 280-649950/18	0.02	3932.0			196600.0	Y
3	IC 280-649950/17	0.05	9759.0			195180.0	Y
4	IC 280-649950/16	0.1	20035.0			200350.0	Y
5	IC 280-649950/15	0.25	47641.0			190564.0	Y
6	IC 280-649950/14	0.4	77471.0			193677.5	Y
7	IC 280-649950/13	0.7	136899.0			195570.0	Y
8	IC 280-649950/12	1.0	198305.0			198305.0	Y
9	IC 280-649950/11	2.5	495535.0			198214.0	Y



Calibration

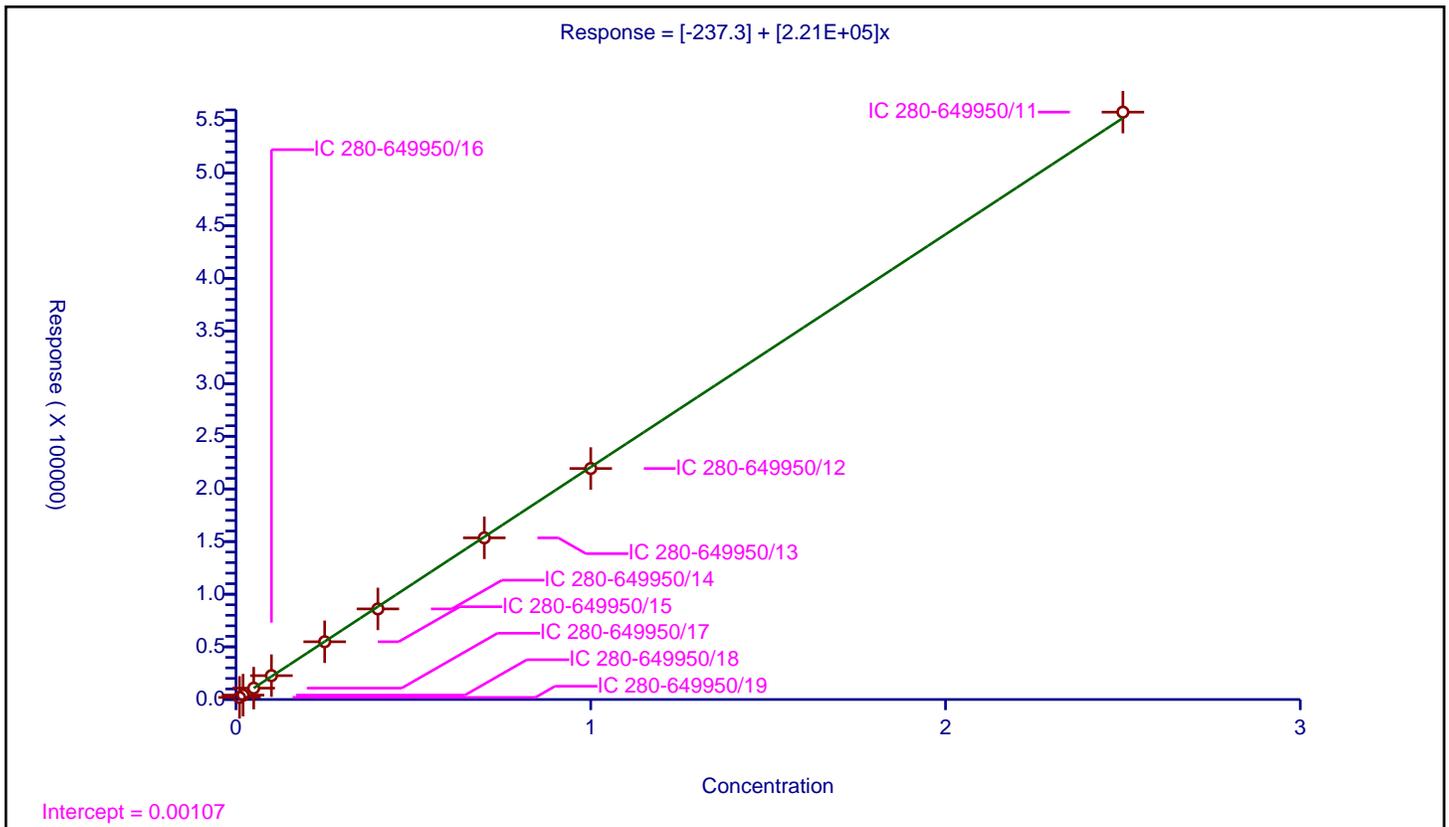
/ 3,5-Dinitroaniline

Curve Type: Linear
 Weighting: Conc_Sq
 Origin: None
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	-237.3
Slope:	2.21E+05

Error Coefficients	
Relative Standard Deviation:	1.7

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01	1971.0			197100.0	Y
2	IC 280-649950/18	0.02	4171.0			208550.0	Y
3	IC 280-649950/17	0.05	10781.0			215620.0	Y
4	IC 280-649950/16	0.1	22651.0			226510.0	Y
5	IC 280-649950/15	0.25	54841.0			219364.0	Y
6	IC 280-649950/14	0.4	86047.0			215117.5	Y
7	IC 280-649950/13	0.7	153531.0			219330.0	Y
8	IC 280-649950/12	1.0	219396.0			219396.0	Y
9	IC 280-649950/11	2.5	557874.0			223149.6	Y



Calibration

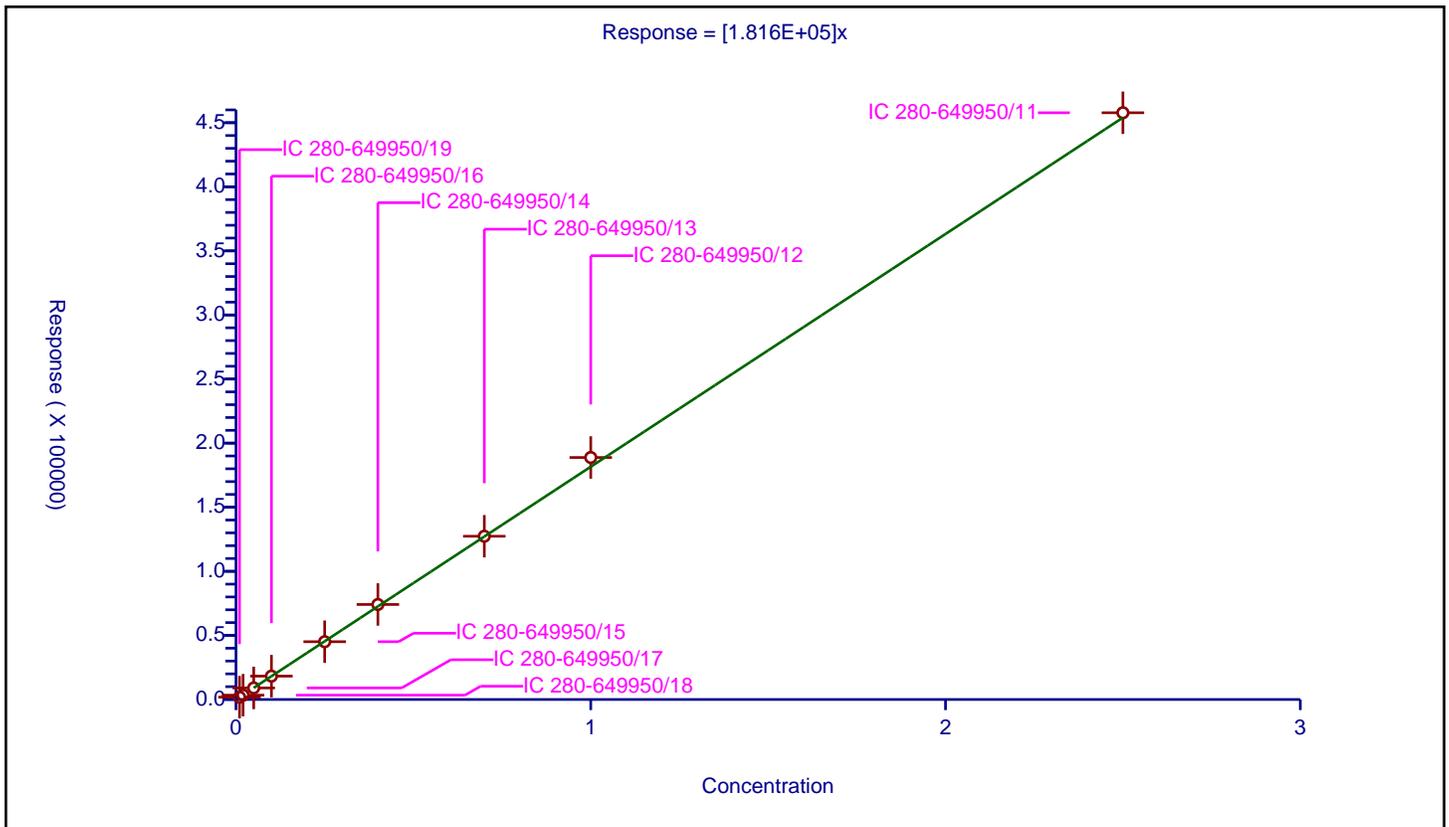
/ Tetryl

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	1.816E+05

Error Coefficients	
Relative Standard Deviation:	3.0

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01	1835.0			183500.0	Y
2	IC 280-649950/18	0.02	3374.0			168700.0	Y
3	IC 280-649950/17	0.05	9010.0			180200.0	Y
4	IC 280-649950/16	0.1	18238.0			182380.0	Y
5	IC 280-649950/15	0.25	45082.0			180328.0	Y
6	IC 280-649950/14	0.4	74126.0			185315.0	Y
7	IC 280-649950/13	0.7	127375.0			181964.285714	Y
8	IC 280-649950/12	1.0	188801.0			188801.0	Y
9	IC 280-649950/11	2.5	457763.0			183105.2	Y



Calibration

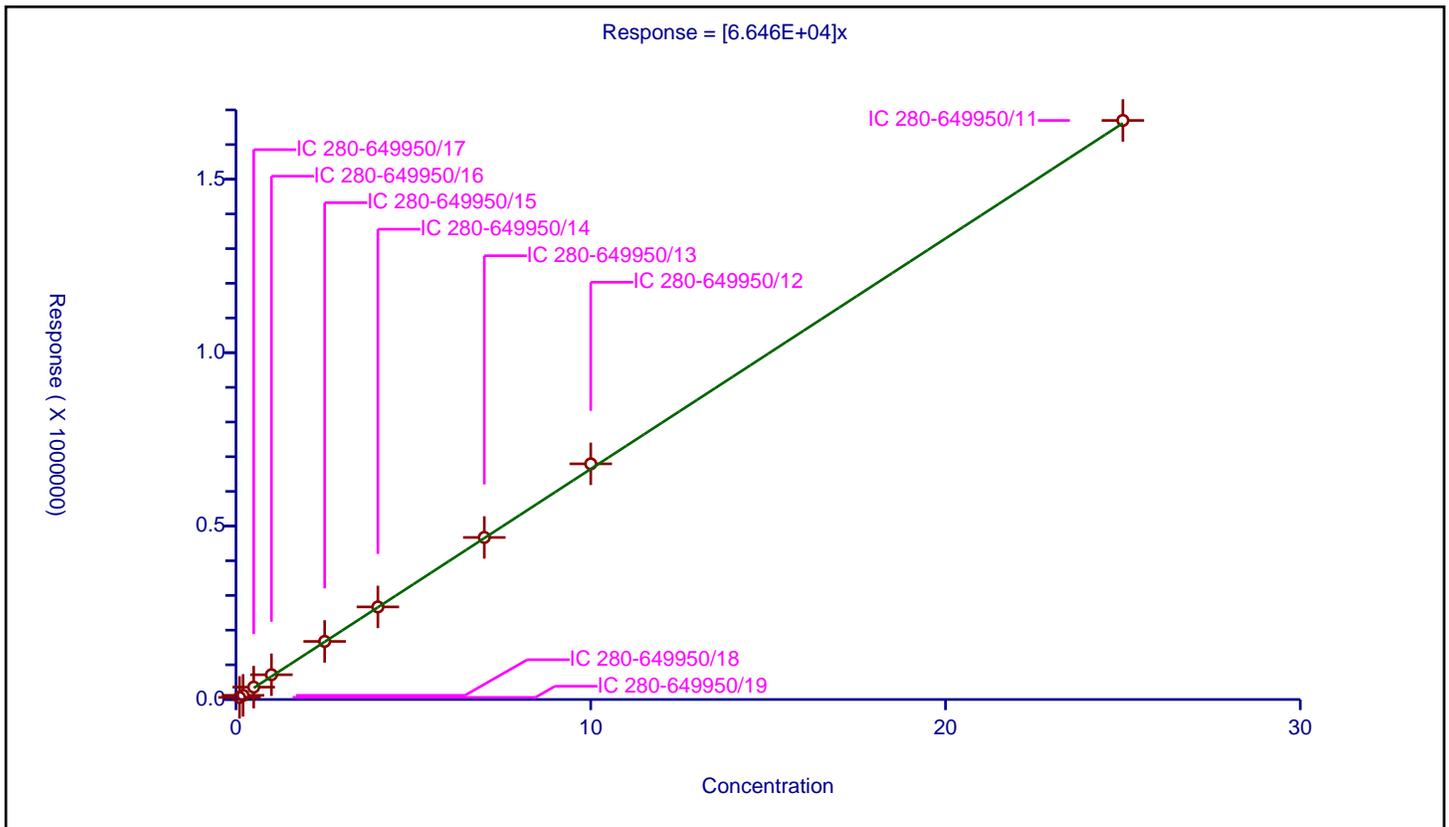
/ Nitroglycerin

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	6.646E+04

Error Coefficients	
Relative Standard Deviation:	6.1

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.1	6048.0			60480.0	Y
2	IC 280-649950/18	0.2	11963.0			59815.0	Y
3	IC 280-649950/17	0.5	35657.0			71314.0	Y
4	IC 280-649950/16	1.0	71367.0			71367.0	Y
5	IC 280-649950/15	2.5	167486.0			66994.4	Y
6	IC 280-649950/14	4.0	266924.0			66731.0	Y
7	IC 280-649950/13	7.0	467214.0			66744.857143	Y
8	IC 280-649950/12	10.0	679445.0			67944.5	Y
9	IC 280-649950/11	25.0	1669606.0			66784.24	Y



Calibration

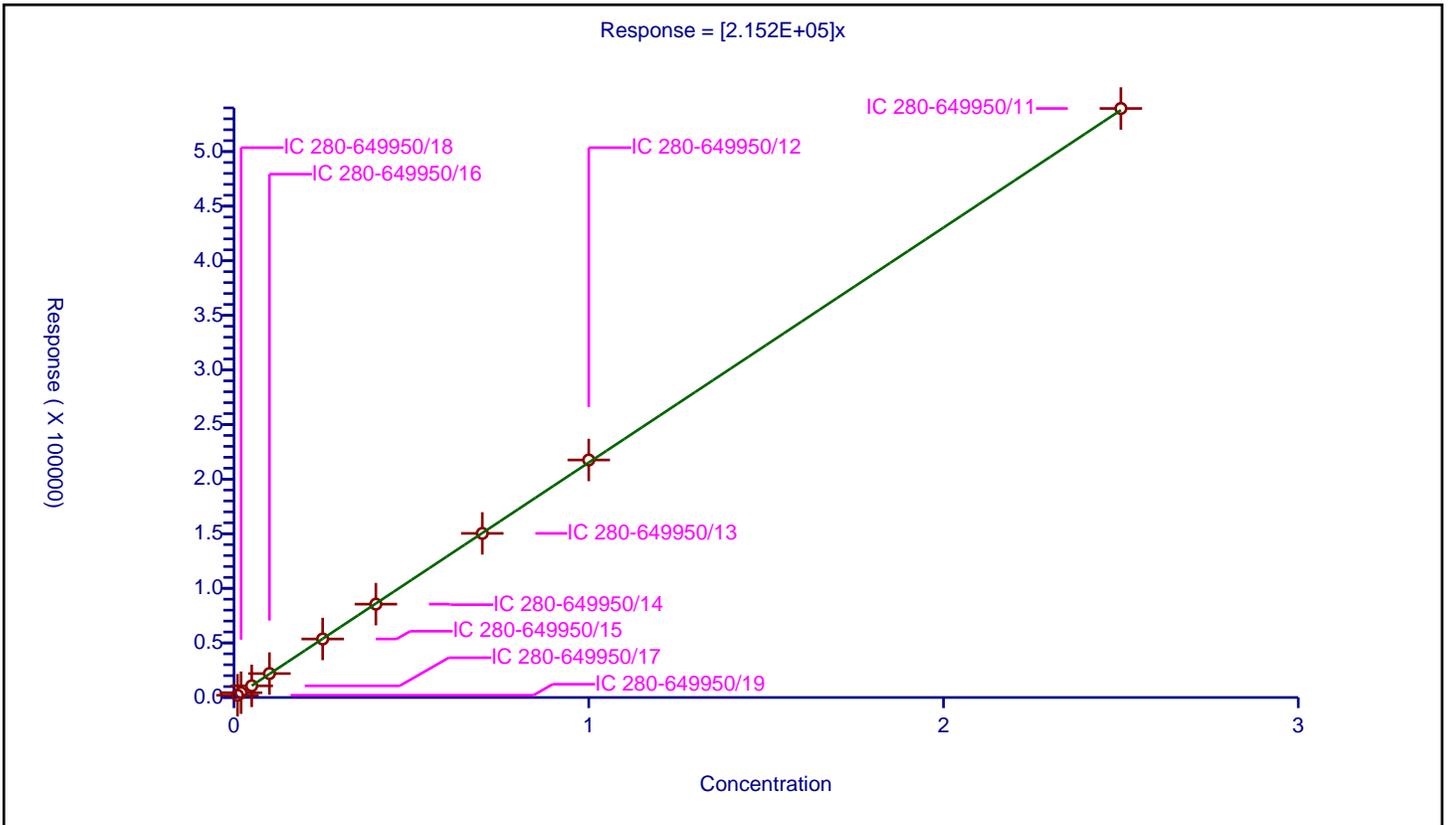
/ 2,4,6-Trinitrotoluene

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	2.152E+05

Error Coefficients	
Relative Standard Deviation:	1.7

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01	2081.0			208100.0	Y
2	IC 280-649950/18	0.02	4400.0			220000.0	Y
3	IC 280-649950/17	0.05	10669.0			213380.0	Y
4	IC 280-649950/16	0.1	21912.0			219120.0	Y
5	IC 280-649950/15	0.25	53593.0			214372.0	Y
6	IC 280-649950/14	0.4	85495.0			213737.5	Y
7	IC 280-649950/13	0.7	150301.0			214715.714286	Y
8	IC 280-649950/12	1.0	217516.0			217516.0	Y
9	IC 280-649950/11	2.5	539471.0			215788.4	Y



Calibration

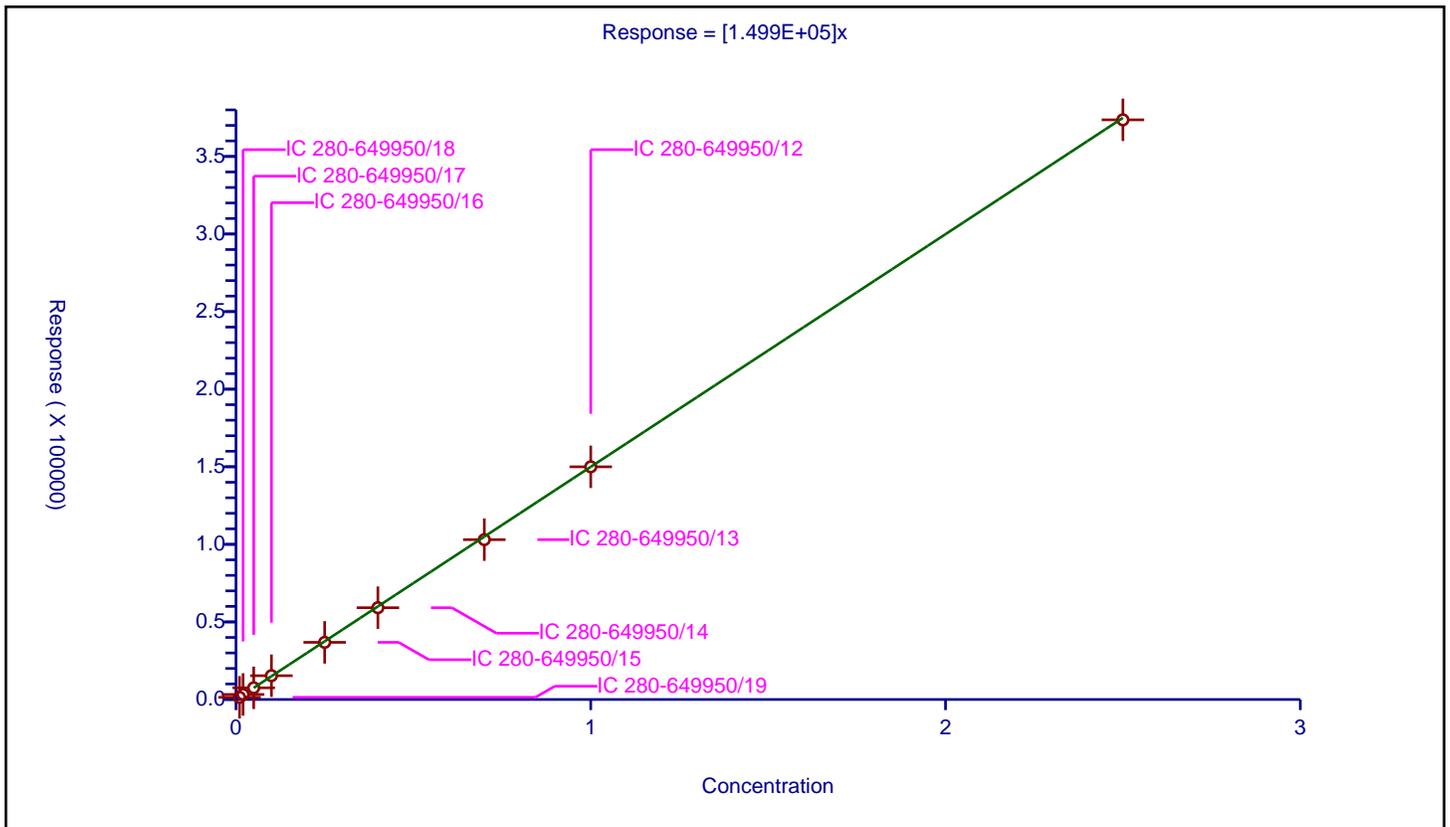
/ 4-Amino-2,6-dinitrotoluene

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	1.499E+05

Error Coefficients	
Relative Standard Deviation:	4.0

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01	1406.0			140600.0	Y
2	IC 280-649950/18	0.02	3261.0			163050.0	Y
3	IC 280-649950/17	0.05	7533.0			150660.0	Y
4	IC 280-649950/16	0.1	15344.0			153440.0	Y
5	IC 280-649950/15	0.25	36831.0			147324.0	Y
6	IC 280-649950/14	0.4	59155.0			147887.5	Y
7	IC 280-649950/13	0.7	103016.0			147165.714286	Y
8	IC 280-649950/12	1.0	149965.0			149965.0	Y
9	IC 280-649950/11	2.5	373596.0			149438.4	Y



Calibration

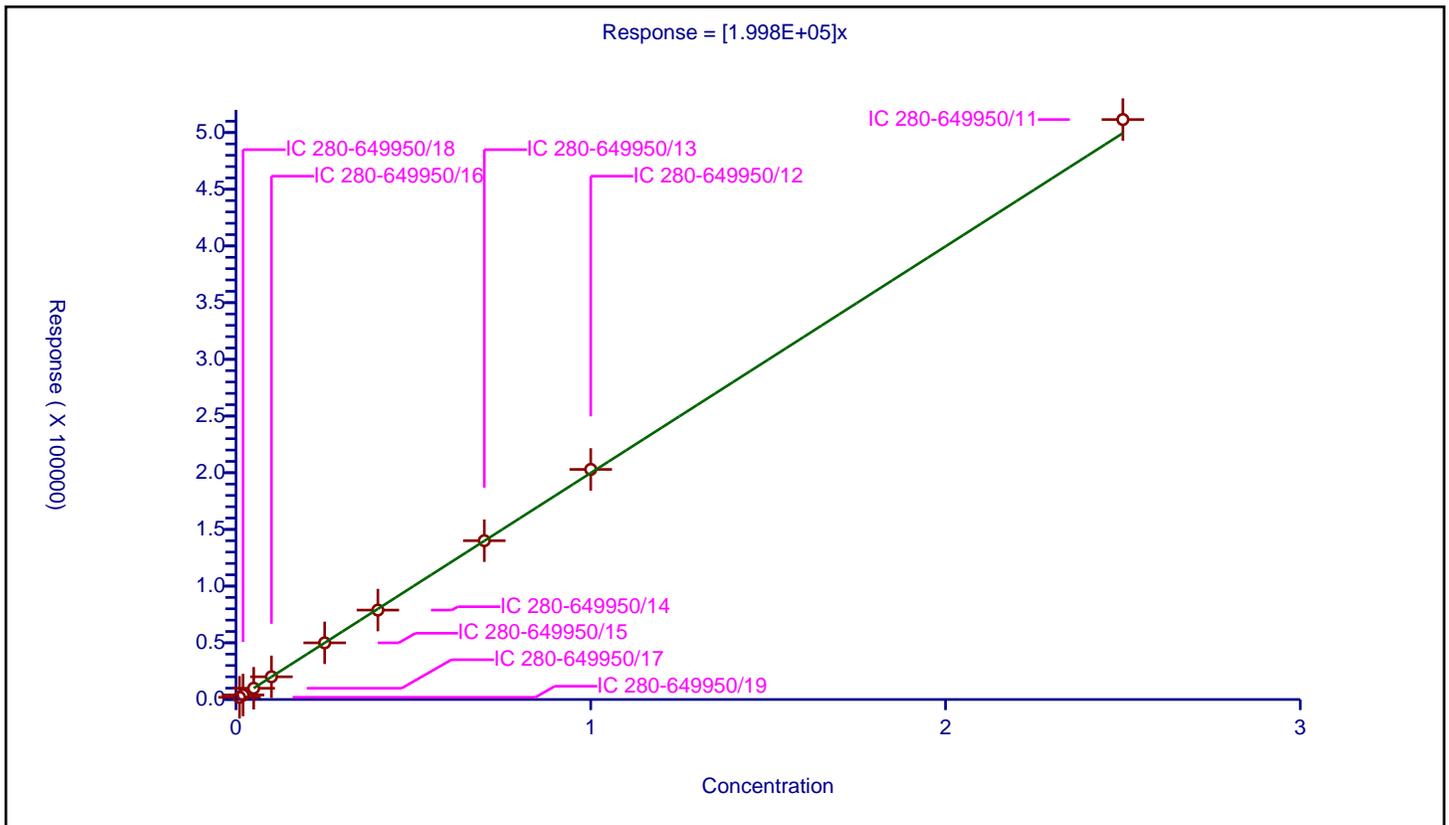
/ 2-Amino-4,6-dinitrotoluene

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	1.998E+05

Error Coefficients	
Relative Standard Deviation:	1.4

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01	1951.0			195100.0	Y
2	IC 280-649950/18	0.02	3997.0			199850.0	Y
3	IC 280-649950/17	0.05	9923.0			198460.0	Y
4	IC 280-649950/16	0.1	20033.0			200330.0	Y
5	IC 280-649950/15	0.25	49951.0			199804.0	Y
6	IC 280-649950/14	0.4	78856.0			197140.0	Y
7	IC 280-649950/13	0.7	140054.0			200077.142857	Y
8	IC 280-649950/12	1.0	202927.0			202927.0	Y
9	IC 280-649950/11	2.5	511483.0			204593.2	Y



Calibration

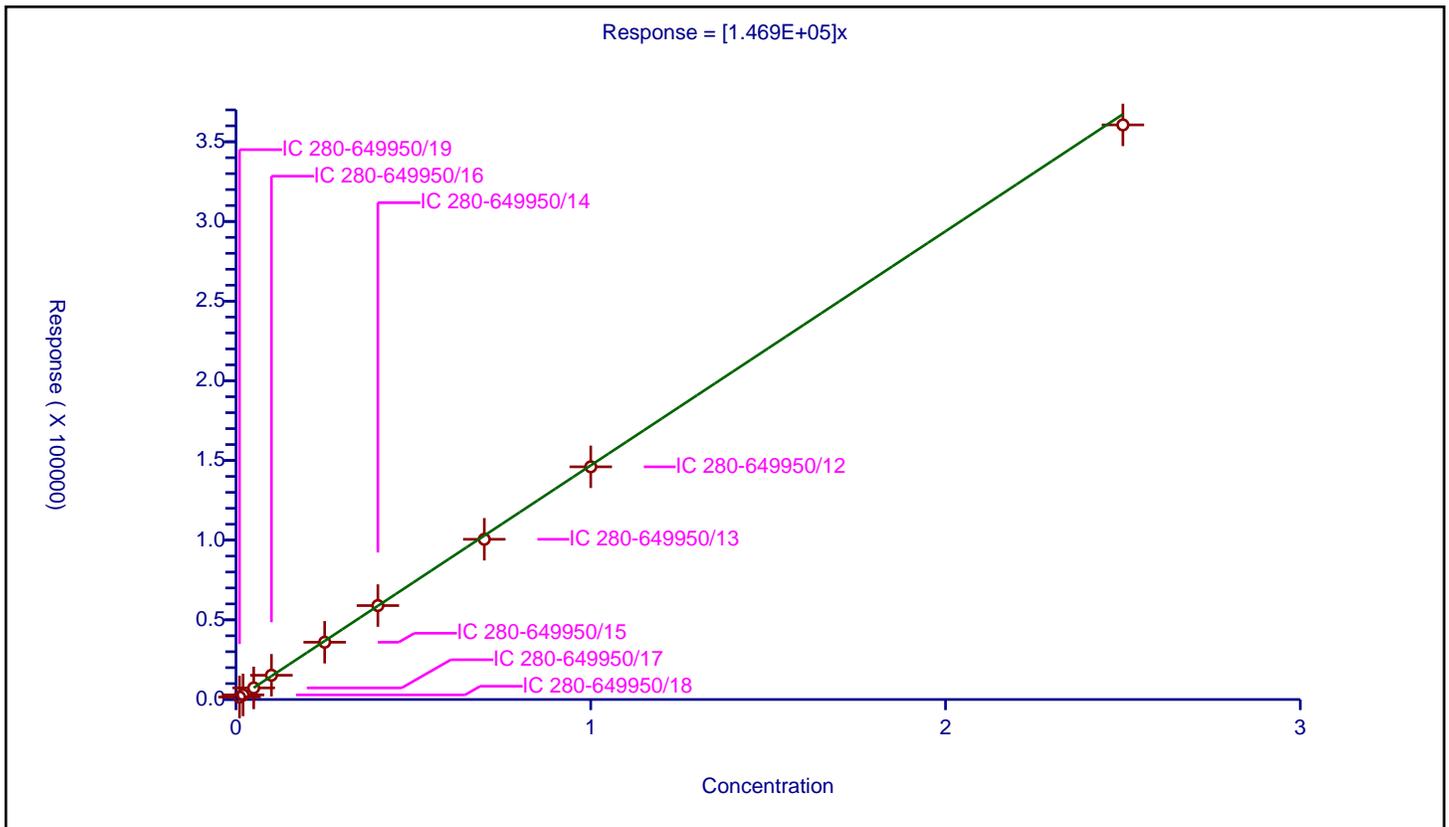
/ 2,6-Dinitrotoluene

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	1.469E+05

Error Coefficients	
Relative Standard Deviation:	2.9

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01	1557.0			155700.0	Y
2	IC 280-649950/18	0.02	2880.0			144000.0	Y
3	IC 280-649950/17	0.05	7267.0			145340.0	Y
4	IC 280-649950/16	0.1	15218.0			152180.0	Y
5	IC 280-649950/15	0.25	35939.0			143756.0	Y
6	IC 280-649950/14	0.4	58947.0			147367.5	Y
7	IC 280-649950/13	0.7	100540.0			143628.571429	Y
8	IC 280-649950/12	1.0	146021.0			146021.0	Y
9	IC 280-649950/11	2.5	360585.0			144234.0	Y



Calibration

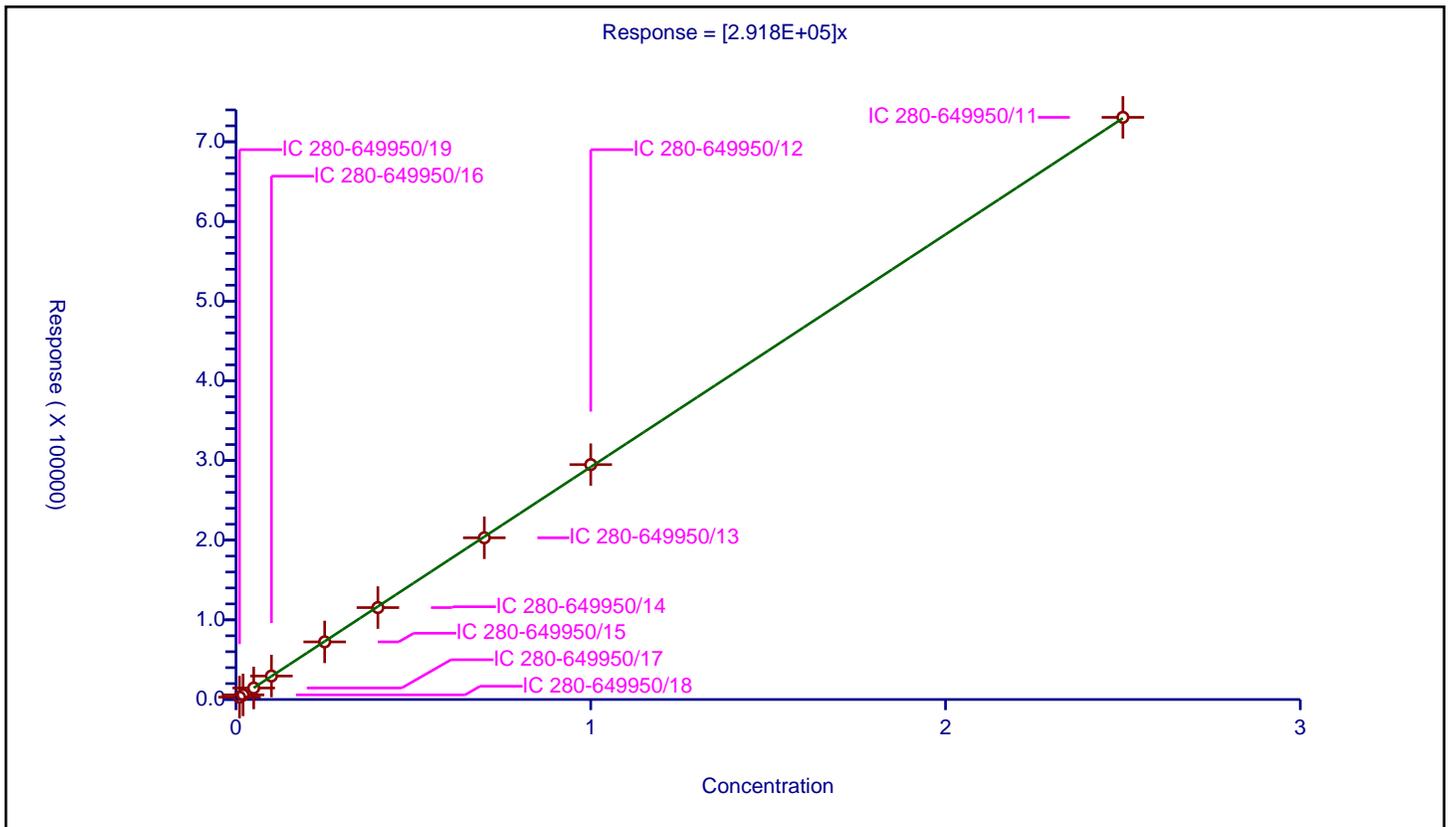
/ 2,4-Dinitrotoluene

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	2.918E+05

Error Coefficients	
Relative Standard Deviation:	1.3

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01	2993.0			299300.0	Y
2	IC 280-649950/18	0.02	5793.0			289650.0	Y
3	IC 280-649950/17	0.05	14425.0			288500.0	Y
4	IC 280-649950/16	0.1	29452.0			294520.0	Y
5	IC 280-649950/15	0.25	72314.0			289256.0	Y
6	IC 280-649950/14	0.4	115355.0			288387.5	Y
7	IC 280-649950/13	0.7	202952.0			289931.428571	Y
8	IC 280-649950/12	1.0	294790.0			294790.0	Y
9	IC 280-649950/11	2.5	730644.0			292257.6	Y



Calibration

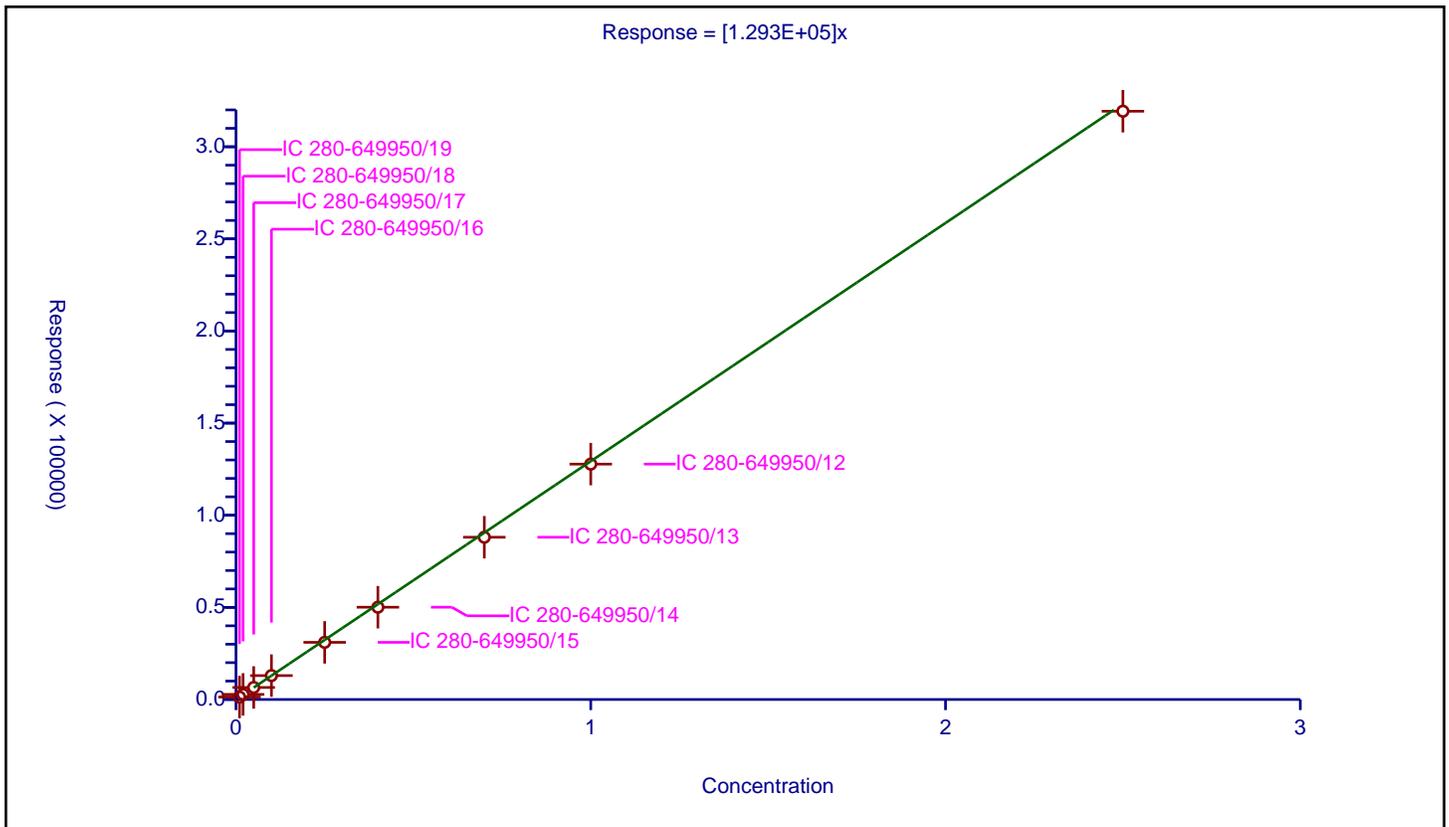
/ o-Nitrotoluene

Curve Type: Average
Weighting: Conc_Sq
Origin: Force
Dependency: Response
Calib Mode: ESTD
Response Base: AREA
RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	1.293E+05

Error Coefficients	
Relative Standard Deviation:	3.6

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01	1340.0			134000.0	Y
2	IC 280-649950/18	0.02	2777.0			138850.0	Y
3	IC 280-649950/17	0.05	6526.0			130520.0	Y
4	IC 280-649950/16	0.1	12977.0			129770.0	Y
5	IC 280-649950/15	0.25	31023.0			124092.0	Y
6	IC 280-649950/14	0.4	50092.0			125230.0	Y
7	IC 280-649950/13	0.7	88069.0			125812.857143	Y
8	IC 280-649950/12	1.0	127758.0			127758.0	Y
9	IC 280-649950/11	2.5	319286.0			127714.4	Y



Calibration

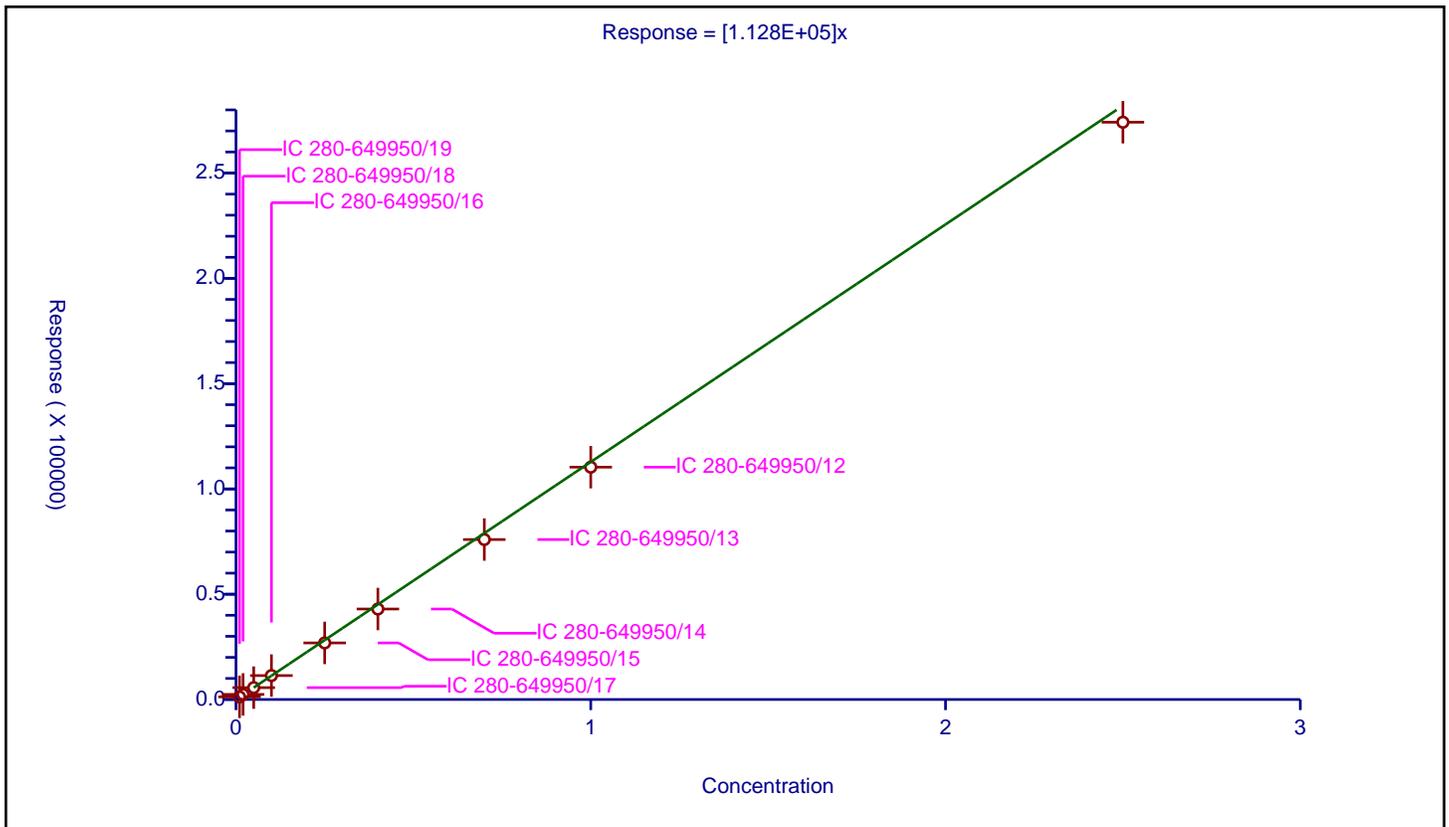
/ p-Nitrotoluene

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	1.128E+05

Error Coefficients	
Relative Standard Deviation:	5.4

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01	1249.0			124900.0	Y
2	IC 280-649950/18	0.02	2413.0			120650.0	Y
3	IC 280-649950/17	0.05	5631.0			112620.0	Y
4	IC 280-649950/16	0.1	11360.0			113600.0	Y
5	IC 280-649950/15	0.25	26871.0			107484.0	Y
6	IC 280-649950/14	0.4	42973.0			107432.5	Y
7	IC 280-649950/13	0.7	75957.0			108510.0	Y
8	IC 280-649950/12	1.0	110337.0			110337.0	Y
9	IC 280-649950/11	2.5	274145.0			109658.0	Y



Calibration

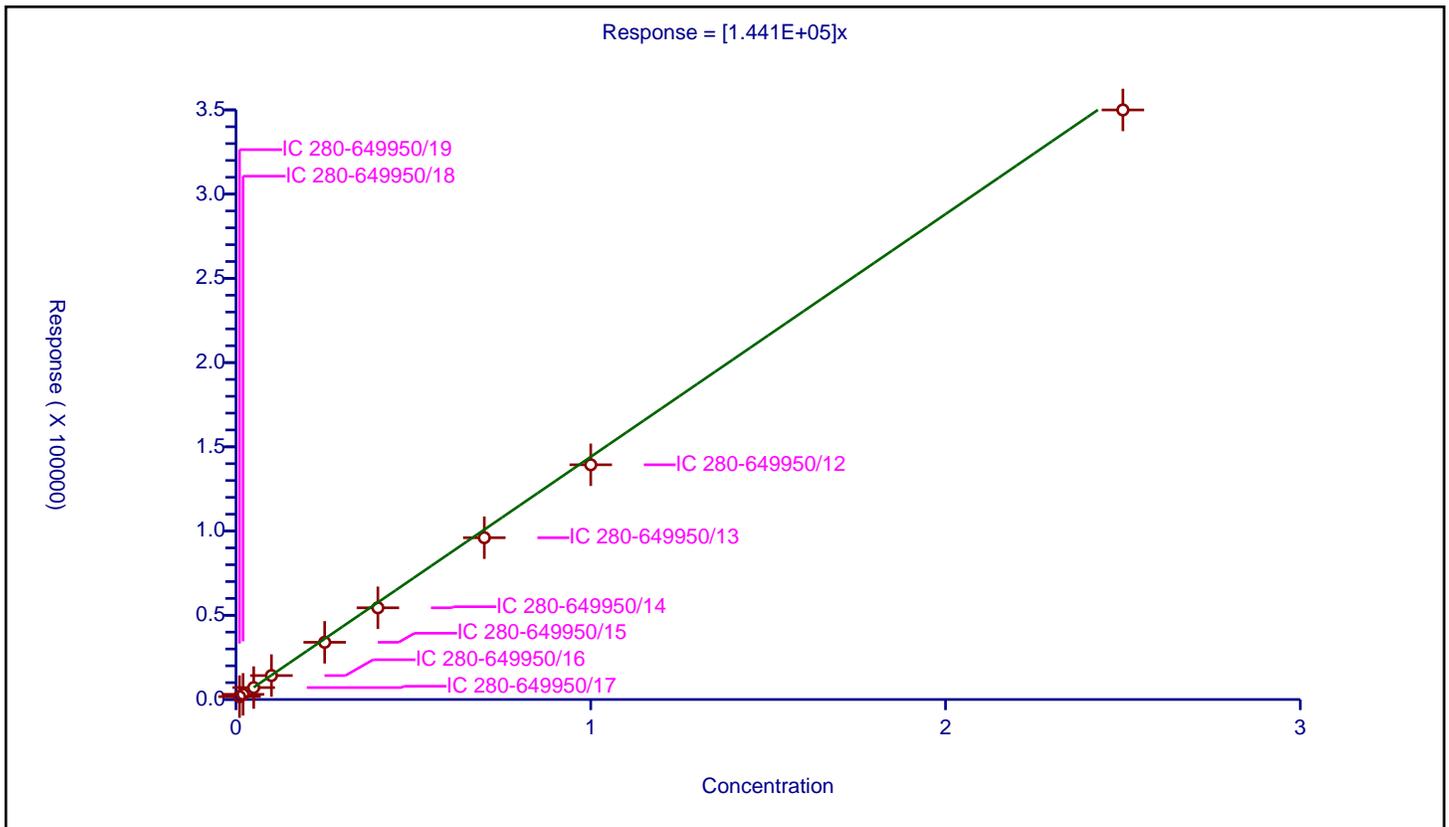
/ m-Nitrotoluene

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	1.441E+05

Error Coefficients	
Relative Standard Deviation:	8.0

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.01	1713.0			171300.0	Y
2	IC 280-649950/18	0.02	3066.0			153300.0	Y
3	IC 280-649950/17	0.05	7074.0			141480.0	Y
4	IC 280-649950/16	0.1	14207.0			142070.0	Y
5	IC 280-649950/15	0.25	33952.0			135808.0	Y
6	IC 280-649950/14	0.4	54437.0			136092.5	Y
7	IC 280-649950/13	0.7	96036.0			137194.285714	Y
8	IC 280-649950/12	1.0	139336.0			139336.0	Y
9	IC 280-649950/11	2.5	349971.0			139988.4	Y



Calibration

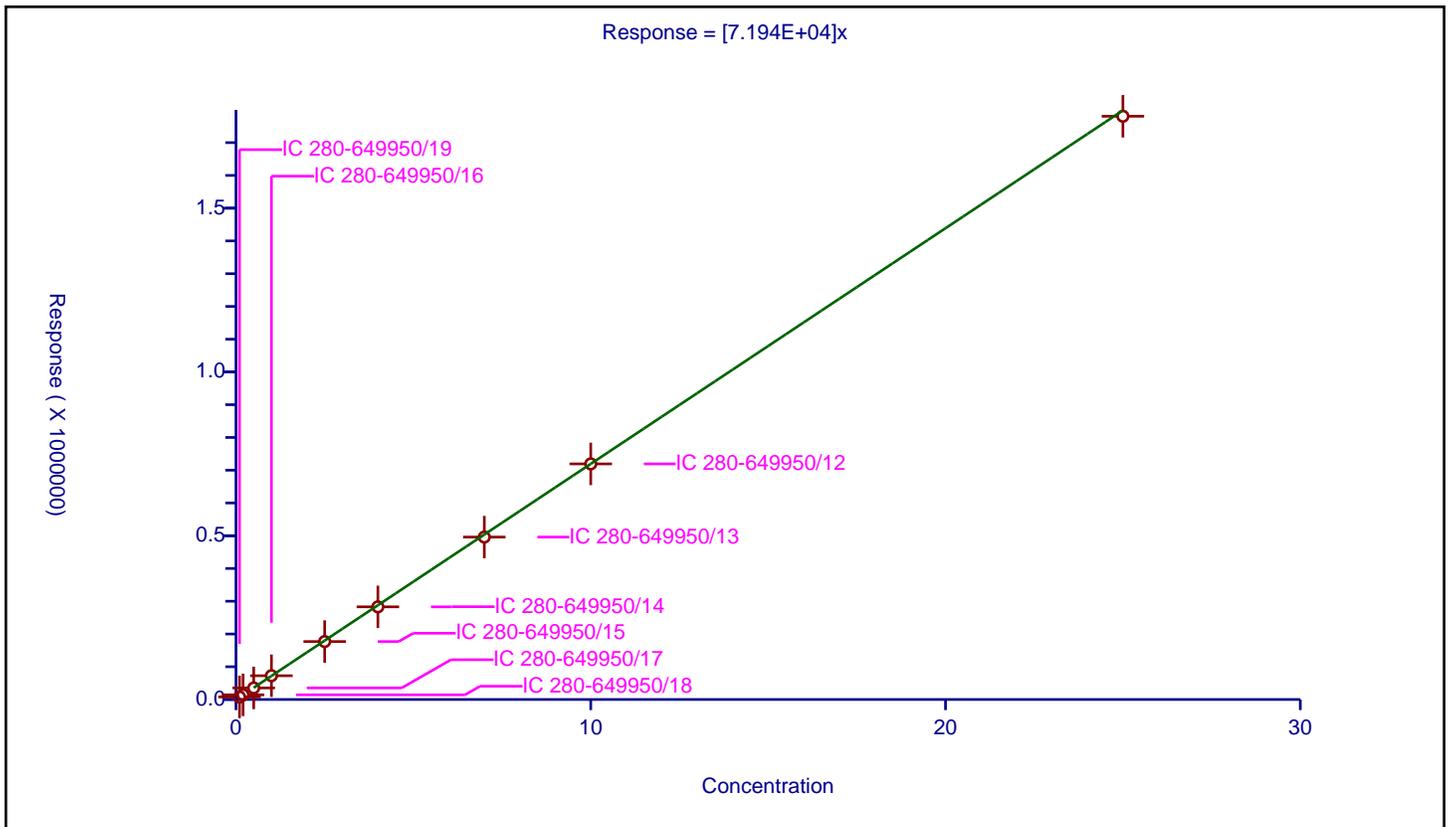
/ PETN

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ESTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	7.194E+04

Error Coefficients	
Relative Standard Deviation:	3.3

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-649950/19	0.1	7807.0			78070.0	Y
2	IC 280-649950/18	0.2	14174.0			70870.0	Y
3	IC 280-649950/17	0.5	35216.0			70432.0	Y
4	IC 280-649950/16	1.0	72600.0			72600.0	Y
5	IC 280-649950/15	2.5	176891.0			70756.4	Y
6	IC 280-649950/14	4.0	282889.0			70722.25	Y
7	IC 280-649950/13	7.0	495856.0			70836.571429	Y
8	IC 280-649950/12	10.0	719241.0			71924.1	Y
9	IC 280-649950/11	25.0	1780535.0			71221.4	Y



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-191579-1
 SDG No.: _____
 Lab Sample ID: ICV 280-649950/20 Calibration Date: 04/18/2024 00:04
 Instrument ID: CHHPLC_X3 Calib Start Date: 04/17/2024 20:37
 GC Column: UltraCarb5uODS ID: 4.60 (mm) Calib End Date: 04/17/2024 23:41
 Lab File ID: 04170020.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
TNX	Ave	198992	204787		517	502	2.9	20.0
HMX	Ave	95544	88884		465	500	-7.0	20.0
DNX	Ave	147260	152248		518	501	3.4	20.0
MNX	Ave	136698	141932		607	585	3.8	20.0
RDX	Ave	110767	107360		485	500	-3.1	20.0
Picric acid	Ave	79326	85128		537	500	7.3	20.0
1,3,5-Trinitrobenzene	Ave	222853	238232		535	500	6.9	20.0
1,3-Dinitrobenzene	Ave	299436	315400		527	500	5.3	20.0
Nitrobenzene	Ave	196329	207206		528	500	5.5	20.0
3,5-Dinitroaniline	Lin2		227972		517	500	3.4	20.0
Tetryl	Ave	181588	191842		528	500	5.6	20.0
Nitroglycerin	Ave	66464	70364		5290	5000	5.9	20.0
2,4,6-Trinitrotoluene	Ave	215192	218358		507	500	1.5	20.0
4-Amino-2,6-dinitrotoluene	Ave	149948	155448		518	500	3.7	20.0
2-Amino-4,6-dinitrotoluene	Ave	199809	208532		522	500	4.4	20.0
2,6-Dinitrotoluene	Ave	146914	147890		503	500	0.7	20.0
2,4-Dinitrotoluene	Ave	291844	298646		512	500	2.3	20.0
2-Nitrotoluene	Ave	129305	129160		499	500	-0.1	20.0
4-Nitrotoluene	Ave	112799	111300		493	500	-1.3	20.0
3-Nitrotoluene	Ave	144063	142054		493	500	-1.4	20.0
PETN	Ave	71937	78341		5450	5000	8.9	20.0
1,2-Dinitrobenzene	Lin2		127242		483	500	-3.5	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-191579-1
 SDG No.: _____
 Lab Sample ID: ICV 280-649950/20 Calibration Date: 04/18/2024 00:04
 Instrument ID: CHHPLC_X3 Calib Start Date: 04/17/2024 20:37
 GC Column: UltraCarb5uODS ID: 4.60 (mm) Calib End Date: 04/17/2024 23:41
 Lab File ID: 04170020.D

Analyte	RT	RT WINDOW	
		FROM	TO
TNX	6.48	6.38	6.58
HMX	6.58	6.43	6.73
DNX	6.79	6.69	6.89
MNX	7.20	7.05	7.35
RDX	7.58	7.43	7.73
Picric acid	7.80	7.67	7.97
1,3,5-Trinitrobenzene	8.66	8.51	8.81
1,3-Dinitrobenzene	9.27	9.13	9.43
Nitrobenzene	9.63	9.49	9.79
3,5-Dinitroaniline	9.87	9.73	10.03
Tetryl	9.95	9.81	10.11
Nitroglycerin	10.43	10.28	10.58
2,4,6-Trinitrotoluene	10.86	10.77	10.97
4-Amino-2,6-dinitrotoluene	11.04	10.95	11.15
2-Amino-4,6-dinitrotoluene	11.30	11.21	11.41
2,6-Dinitrotoluene	11.45	11.35	11.55
2,4-Dinitrotoluene	11.62	11.53	11.73
2-Nitrotoluene	12.41	12.27	12.57
4-Nitrotoluene	12.84	12.69	12.99
3-Nitrotoluene	13.39	13.25	13.55
PETN	14.48	14.33	14.63
1,2-Dinitrobenzene	8.52	8.37	8.67

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170020.D
 Lims ID: ICV INT/DMT
 Client ID:
 Sample Type: ICV
 Inject. Date: 18-Apr-2024 00:04:28 ALS Bottle#: 20 Worklist Smp#: 20
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: ICV INT/DMT
 Operator ID: JZ/JG Instrument ID: CHHPLC_X3
 Sublist:
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 18-Apr-2024 12:06:14 Calib Date: 17-Apr-2024 23:41:30
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170019.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1675

First Level Reviewer: LV5D Date: 18-Apr-2024 11:20:39

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
3 TNX	1	6.475	6.476	-0.001	102803	0.5020	0.5166	M
4 HMX	1	6.581	6.583	-0.002	44442	0.5000	0.4651	M
6 DNx	1	6.788	6.789	-0.001	76276	0.5010	0.5180	M
7 MNX	1	7.201	7.203	-0.002	82959	0.5845	0.6069	
8 RDX	1	7.581	7.583	-0.002	53680	0.5000	0.4846	
9 2,4,6-Trinitrophenol	1	7.795	7.816	-0.021	42564	0.5000	0.5366	
\$ 10 1,2-Dinitrobenzene	1	8.515	8.516	-0.001	63621	0.5000	0.4826	
11 1,3,5-Trinitrobenzene	1	8.655	8.656	-0.001	119116	0.5000	0.5345	
12 1,3-Dinitrobenzene	1	9.274	9.276	-0.002	157700	0.5000	0.5267	
13 Nitrobenzene	1	9.628	9.636	-0.008	103603	0.5000	0.5277	
14 3,5-Dinitroaniline	1	9.868	9.876	-0.008	113986	0.5000	0.5168	
15 Tetryl	1	9.954	9.963	-0.009	95921	0.5000	0.5282	
16 Nitroglycerin	2	10.428	10.429	-0.001	351818	5.00	5.29	
17 2,4,6-Trinitrotoluene	1	10.861	10.869	-0.008	109179	0.5000	0.5074	
18 4-Amino-2,6-dinitrotoluene	1	11.041	11.049	-0.008	77724	0.5000	0.5183	
19 2-Amino-4,6-dinitrotoluene	1	11.301	11.309	-0.008	104266	0.5000	0.5218	
20 2,6-Dinitrotoluene	1	11.448	11.449	-0.001	73945	0.5000	0.5033	
21 2,4-Dinitrotoluene	1	11.621	11.629	-0.008	149323	0.5000	0.5117	
22 o-Nitrotoluene	1	12.414	12.423	-0.009	64580	0.5000	0.4994	
23 p-Nitrotoluene	1	12.841	12.843	-0.002	55650	0.5000	0.4934	
24 m-Nitrotoluene	1	13.394	13.403	-0.009	71027	0.5000	0.4930	
25 PETN	2	14.481	14.483	-0.002	391703	5.00	5.45	
26 Ammonium Picrate	1		0.000			ND	ND	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

8330Surrogate_00154

Amount Added: 50.00

Units: uL

8330 LCS_00134

Amount Added: 50.00

Units: uL

8330_OP_DMT_00026

Amount Added: 50.00

Units: uL

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170020.d

Injection Date: 18-Apr-2024 00:04:28

Instrument ID: CHHPLC_X3

Operator ID: JZ/JG

Lims ID: ICV INT/DMT

Worklist Smp#: 20

Client ID:

Injection Vol: 100.0 ul

Dil. Factor: 1.0000

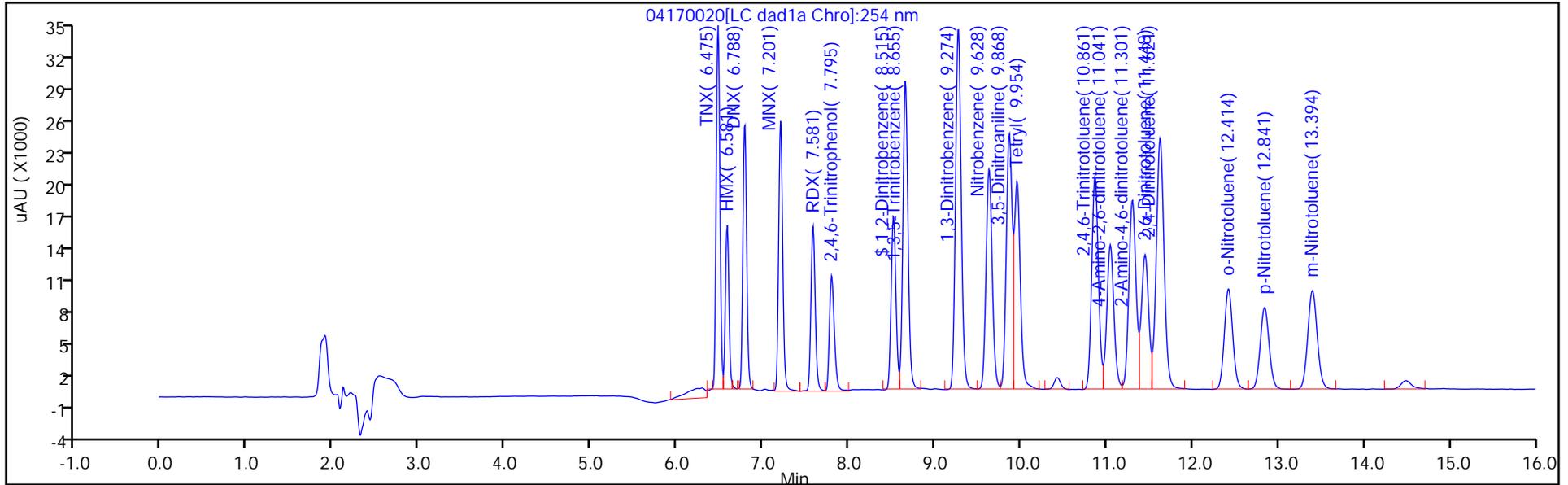
ALS Bottle#: 20

Method: 8330_X3

Limit Group: GCSV - 8330

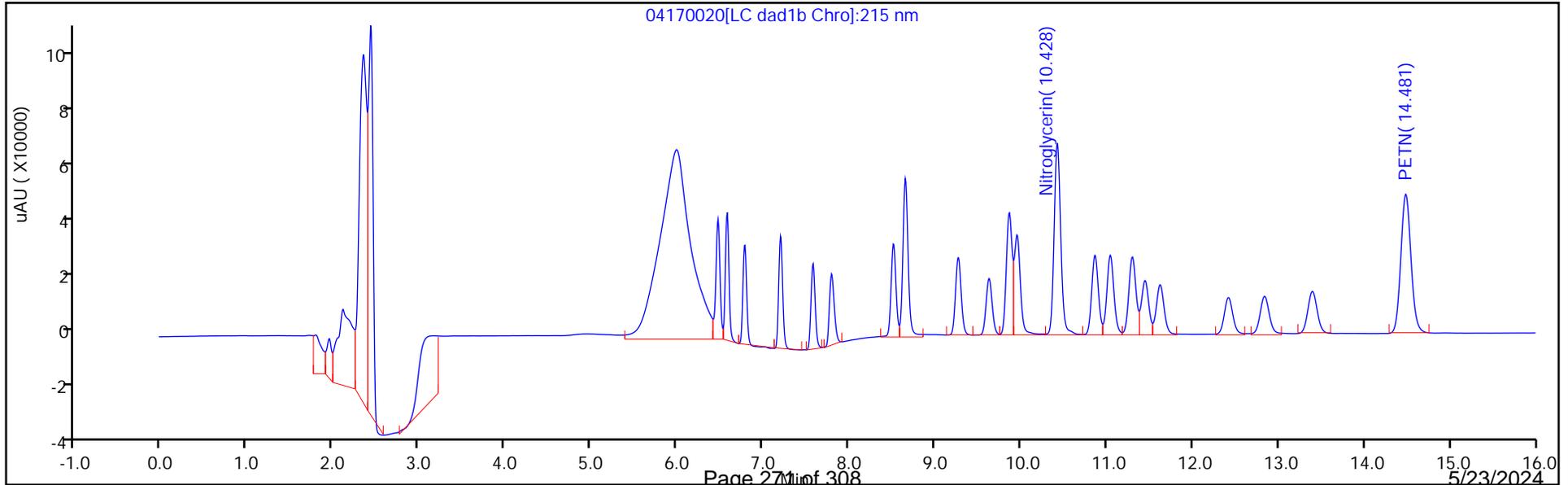
Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Eurofins Denver

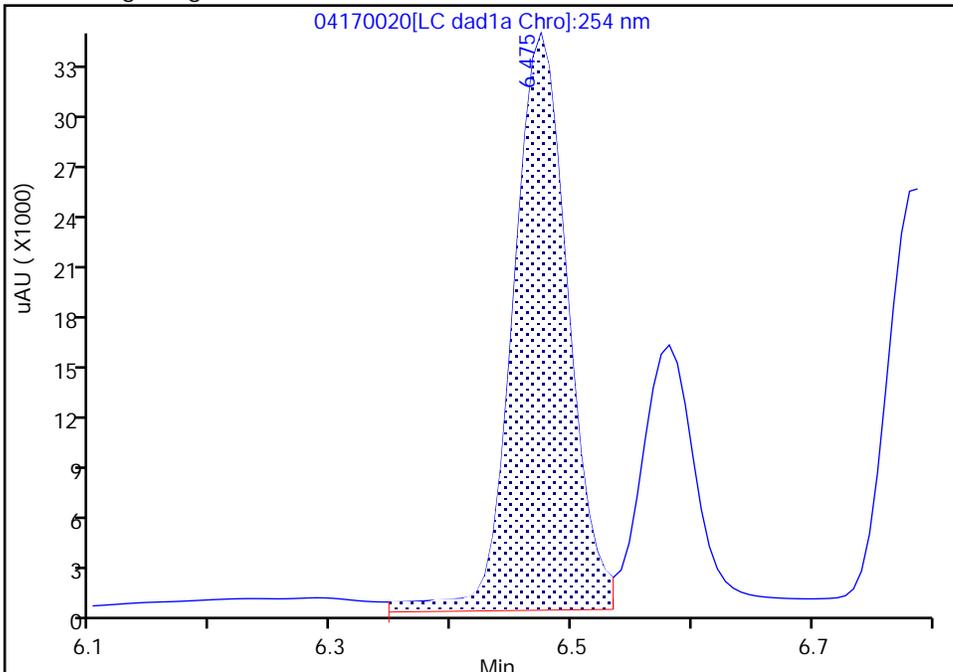
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Injection Date: 18-Apr-2024 00:04:28 Instrument ID: CHHPLC_X3
Lims ID: ICV INT/DMT
Client ID:
Operator ID: JZ/JG ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

3 TNX, CAS: 13980-04-6

Signal: 1

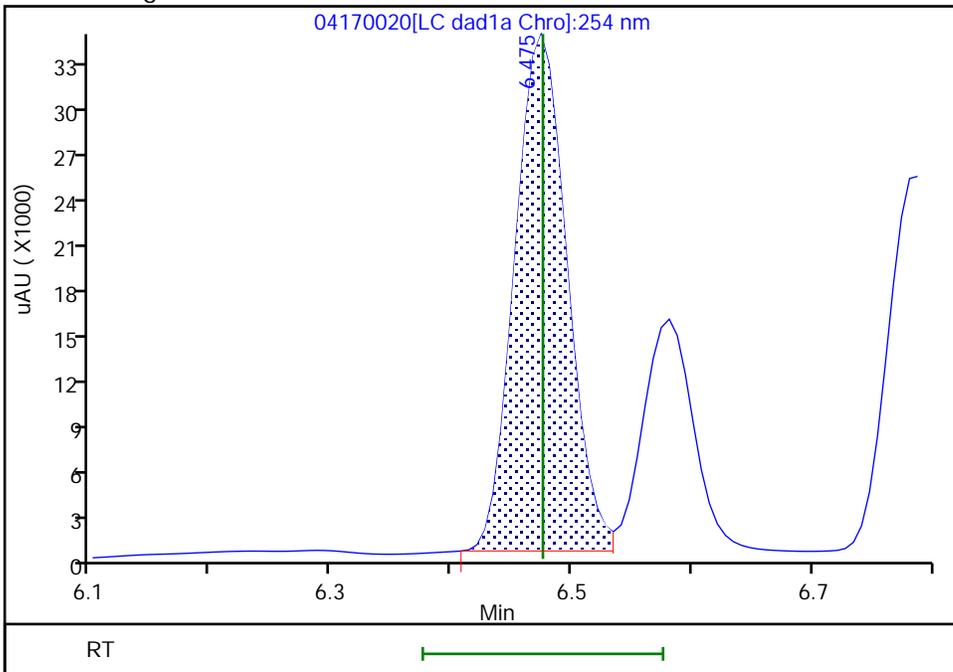
RT: 6.47
Area: 110168
Amount: 0.553630
Amount Units: ug/mL

Processing Integration Results



RT: 6.47
Area: 102803
Amount: 0.516619
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:20:20 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

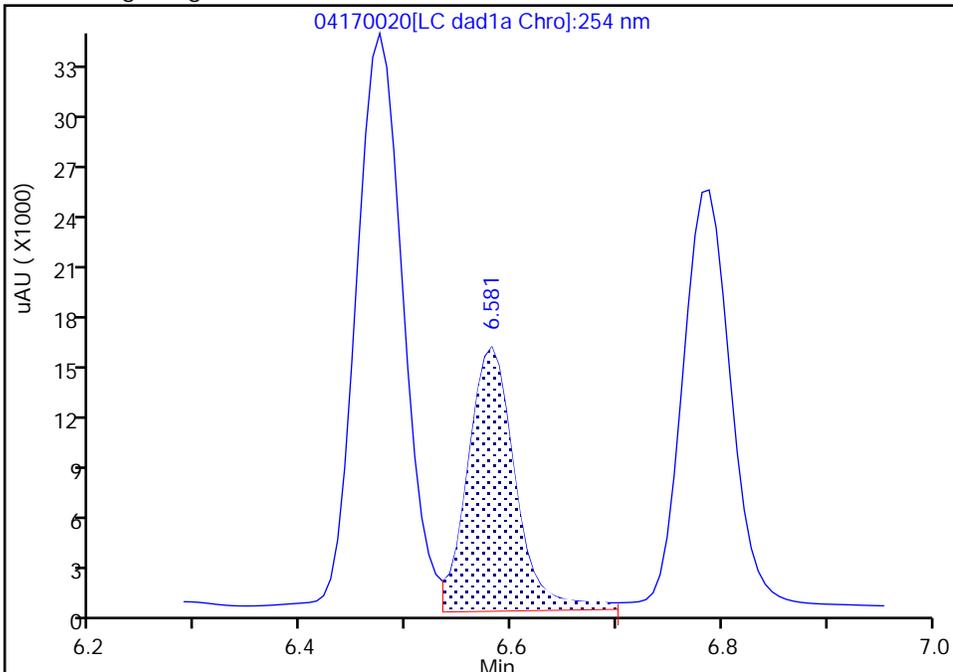
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170020.d
Injection Date: 18-Apr-2024 00:04:28 Instrument ID: CHHPLC_X3
Lims ID: ICV INT/DMT
Client ID:
Operator ID: JZ/JG ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

4 HMX, CAS: 2691-41-0

Signal: 1

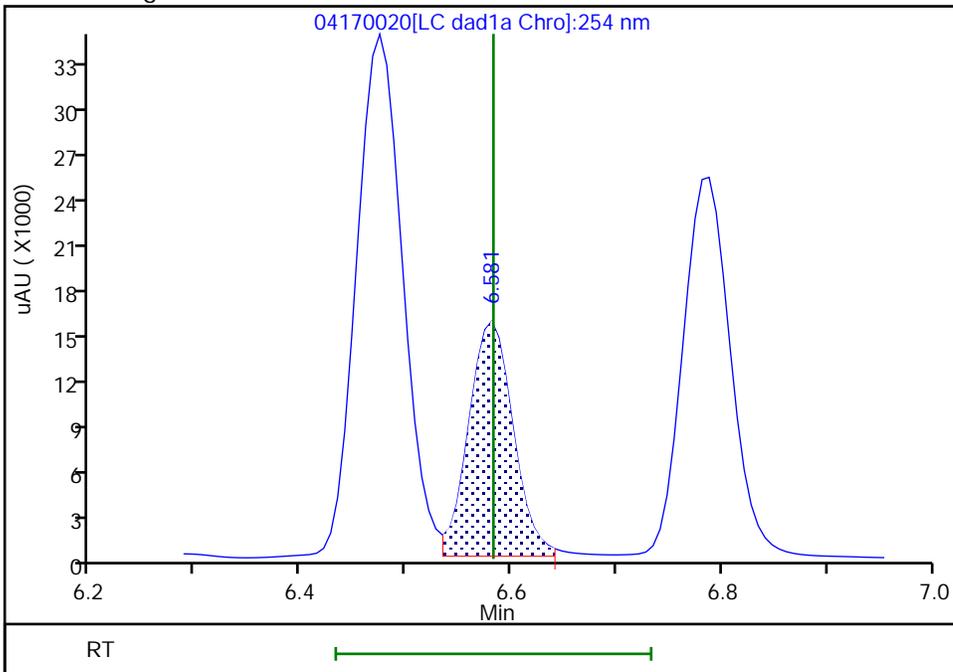
RT: 6.58
Area: 49818
Amount: 0.521416
Amount Units: ug/mL

Processing Integration Results



RT: 6.58
Area: 44442
Amount: 0.465148
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:20:21 -06:00:00 (UTC)

Audit Action: Split an Integrated Peak

Audit Reason: Baseline

Eurofins Denver

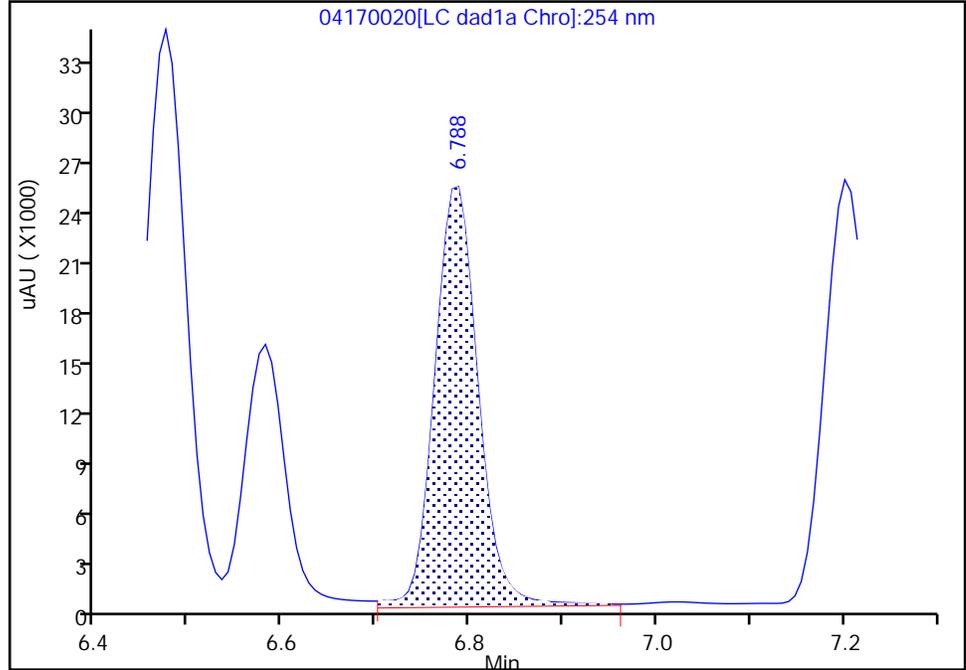
Data File: \\chromfs\denver\chromdata\chhplc_x\20240417-132364.b\04170020.d
Injection Date: 18-Apr-2024 00:04:28 Instrument ID: CHHPLC_X3
Lims ID: ICV INT/DMT
Client ID:
Operator ID: JZ/JG ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

6 DNX, CAS: 80251-29-2

Signal: 1

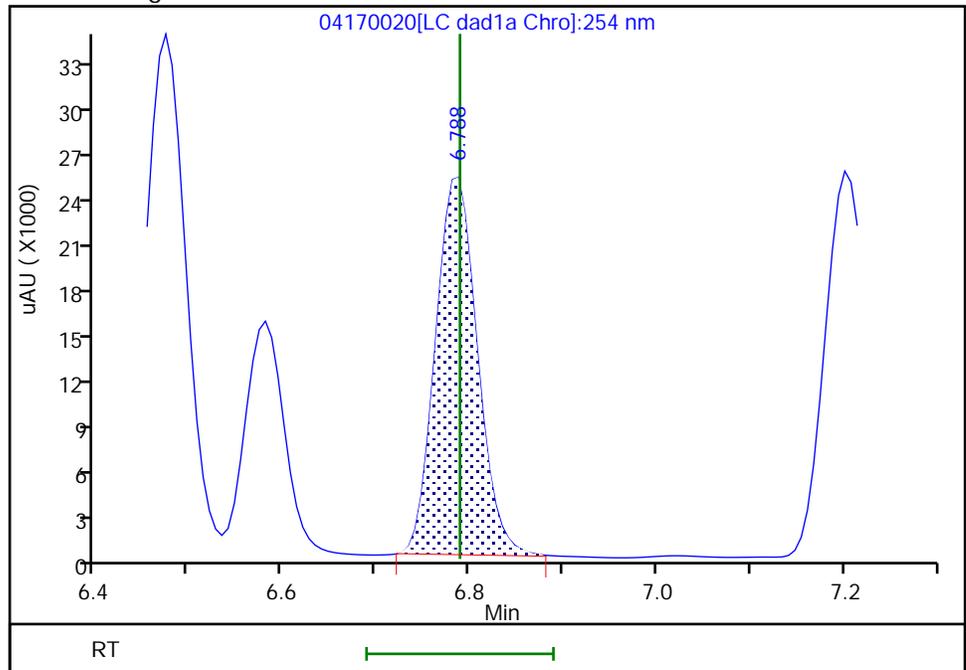
RT: 6.79
Area: 81732
Amount: 0.555020
Amount Units: ug/mL

Processing Integration Results



RT: 6.79
Area: 76276
Amount: 0.517970
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 18-Apr-2024 11:20:24 -06:00:00 (UTC)

Audit Action: Manually Integrated

Audit Reason: Baseline

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-191579-1
 SDG No.: _____
 Lab Sample ID: CCV 280-653946/42 Calibration Date: 05/19/2024 01:01
 Instrument ID: CHHPLC_X3 Calib Start Date: 04/17/2024 20:37
 GC Column: UltraCarb5uODS ID: 4.60 (mm) Calib End Date: 04/17/2024 23:41
 Lab File ID: 05180042.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	95544	95276		249	250	-0.3	20.0
RDX	Ave	110767	108104		244	250	-2.4	20.0
Picric acid	Ave	79326	81112		256	250	2.3	20.0
1,3,5-Trinitrobenzene	Ave	222853	219456		246	250	-1.5	20.0
1,3-Dinitrobenzene	Ave	299436	302144		252	250	0.9	20.0
Nitrobenzene	Ave	196329	188248		240	250	-4.1	20.0
3,5-Dinitroaniline	Lin2		223952		254	250	1.8	20.0
Tetryl	Ave	181588	172844		238	250	-4.8	20.0
Nitroglycerin	Ave	66464	69853		2630	2500	5.1	20.0
2,4,6-Trinitrotoluene	Ave	215192	214428		249	250	-0.4	20.0
4-Amino-2,6-dinitrotoluene	Ave	149948	152880		255	250	2.0	20.0
2-Amino-4,6-dinitrotoluene	Ave	199809	201312		252	250	0.8	20.0
2,6-Dinitrotoluene	Ave	146914	147436		251	250	0.4	20.0
2,4-Dinitrotoluene	Ave	291844	298932		256	250	2.4	20.0
2-Nitrotoluene	Ave	129305	123112		238	250	-4.8	20.0
4-Nitrotoluene	Ave	112799	106692		236	250	-5.4	20.0
3-Nitrotoluene	Ave	144063	134608		234	250	-6.6	20.0
PETN	Ave	71937	72207		2510	2500	0.4	20.0
1,2-Dinitrobenzene	Lin2		132652		251	250	0.5	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-191579-1
 SDG No.: _____
 Lab Sample ID: CCV 280-653946/42 Calibration Date: 05/19/2024 01:01
 Instrument ID: CHHPLC_X3 Calib Start Date: 04/17/2024 20:37
 GC Column: UltraCarb5uODS ID: 4.60 (mm) Calib End Date: 04/17/2024 23:41
 Lab File ID: 05180042.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.62	6.47	6.77
RDX	7.62	7.47	7.77
Picric acid	7.86	7.71	8.01
1,3,5-Trinitrobenzene	8.69	8.53	8.83
1,3-Dinitrobenzene	9.30	9.15	9.45
Nitrobenzene	9.65	9.50	9.80
3,5-Dinitroaniline	9.88	9.73	10.03
Tetryl	9.96	9.81	10.11
Nitroglycerin	10.44	10.29	10.59
2,4,6-Trinitrotoluene	10.87	10.77	10.97
4-Amino-2,6-dinitrotoluene	11.04	10.94	11.14
2-Amino-4,6-dinitrotoluene	11.29	11.19	11.39
2,6-Dinitrotoluene	11.44	11.34	11.54
2,4-Dinitrotoluene	11.61	11.52	11.72
2-Nitrotoluene	12.39	12.24	12.54
4-Nitrotoluene	12.80	12.65	12.95
3-Nitrotoluene	13.35	13.20	13.50
PETN	14.38	14.23	14.53
1,2-Dinitrobenzene	8.55	8.40	8.70

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\05180042.D
 Lims ID: CCV INT
 Client ID:
 Sample Type: CCV
 Inject. Date: 19-May-2024 01:01:44 ALS Bottle#: 7 Worklist Smp#: 42
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: CCV INT
 Operator ID: JZ Instrument ID: CHHPLC_X3
 Sublist: chrom-8330_X3*sub26
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 21-May-2024 14:16:32 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1613

First Level Reviewer: LV5D Date: 21-May-2024 13:27:58

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.615	6.618	-0.003	23819	0.2500	0.2493	
8 RDX	1	7.621	7.624	-0.003	27026	0.2500	0.2440	
9 2,4,6-Trinitrophenol	1	7.861	7.858	0.003	20278	0.2500	0.2556	
\$ 10 1,2-Dinitrobenzene	1	8.548	8.551	-0.003	33163	0.2500	0.2512	
11 1,3,5-Trinitrobenzene	1	8.688	8.684	0.004	54864	0.2500	0.2462	
12 1,3-Dinitrobenzene	1	9.295	9.297	-0.002	75536	0.2500	0.2523	
13 Nitrobenzene	1	9.648	9.651	-0.003	47062	0.2500	0.2397	
14 3,5-Dinitroaniline	1	9.881	9.877	0.004	55988	0.2500	0.2544	
15 Tetryl	1	9.961	9.964	-0.003	43211	0.2500	0.2380	
16 Nitroglycerin	2	10.435	10.437	-0.002	174633	2.50	2.63	
17 2,4,6-Trinitrotoluene	1	10.868	10.871	-0.003	53607	0.2500	0.2491	
18 4-Amino-2,6-dinitrotoluene	1	11.035	11.037	-0.002	38220	0.2500	0.2549	
19 2-Amino-4,6-dinitrotoluene	1	11.288	11.291	-0.003	50328	0.2500	0.2519	
20 2,6-Dinitrotoluene	1	11.435	11.437	-0.002	36859	0.2500	0.2509	
21 2,4-Dinitrotoluene	1	11.608	11.617	-0.009	74733	0.2500	0.2561	
22 o-Nitrotoluene	1	12.388	12.391	-0.003	30778	0.2500	0.2380	
23 p-Nitrotoluene	1	12.801	12.804	-0.003	26673	0.2500	0.2365	
24 m-Nitrotoluene	1	13.348	13.351	-0.003	33652	0.2500	0.2336	
25 PETN	2	14.381	14.384	-0.003	180517	2.50	2.51	

QC Flag Legend

Processing Flags

Reagents:

8330IntermStk_00081 Amount Added: 25.00 Units: uL

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20240518-133542.b\05180042.d

Injection Date: 19-May-2024 01:01:44

Instrument ID: CHHPLC_X3

Operator ID: JZ

Lims ID: CCV INT

Worklist Smp#: 42

Client ID:

Injection Vol: 100.0 ul

Dil. Factor: 1.0000

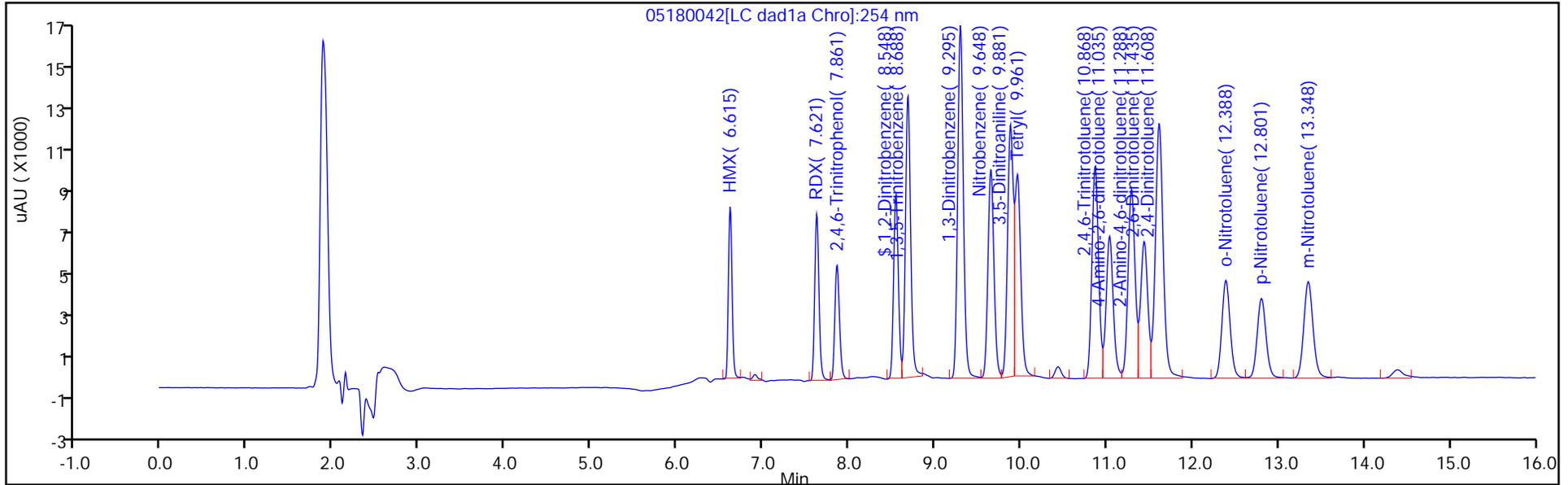
ALS Bottle#: 7

Method: 8330_X3

Limit Group: GCSV - 8330

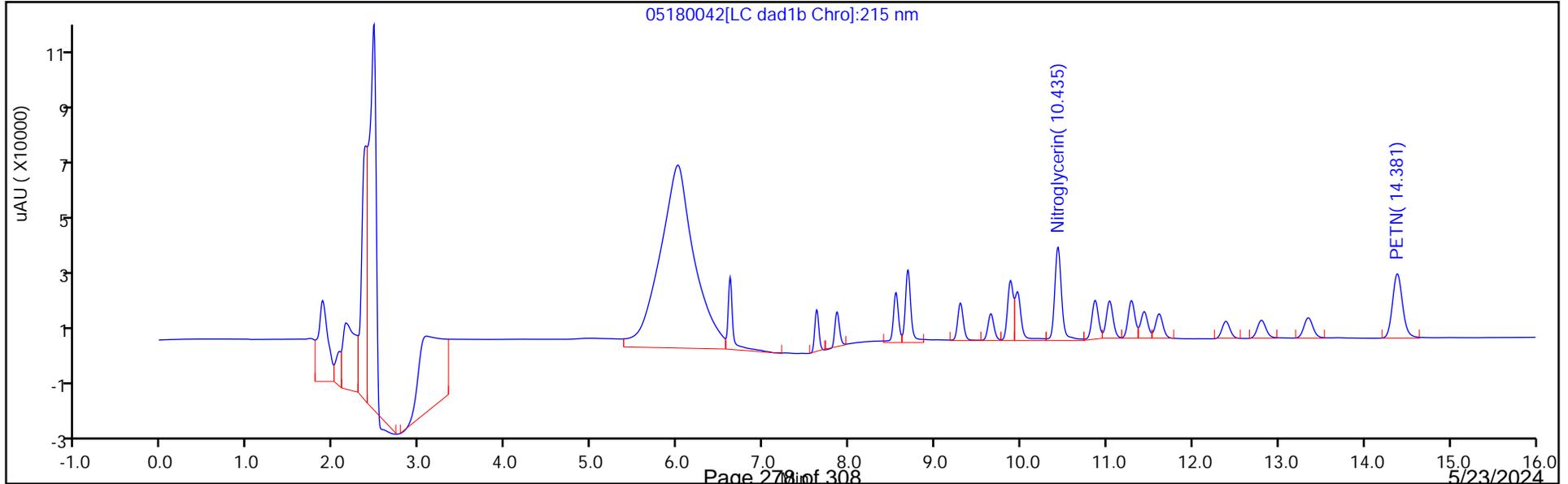
Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-191579-1
 SDG No.: _____
 Lab Sample ID: CCV 280-653946/53 Calibration Date: 05/19/2024 05:14
 Instrument ID: CHHPLC_X3 Calib Start Date: 04/17/2024 20:37
 GC Column: UltraCarb5uODS ID: 4.60 (mm) Calib End Date: 04/17/2024 23:41
 Lab File ID: 05180053.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	95544	94652		248	250	-0.9	20.0
RDX	Ave	110767	108356		245	250	-2.2	20.0
Picric acid	Ave	79326	81380		256	250	2.6	20.0
1,3,5-Trinitrobenzene	Ave	222853	219524		246	250	-1.5	20.0
1,3-Dinitrobenzene	Ave	299436	301476		252	250	0.7	20.0
Nitrobenzene	Ave	196329	185176		236	250	-5.7	20.0
3,5-Dinitroaniline	Lin2		224132		255	250	1.8	20.0
Tetryl	Ave	181588	171244		236	250	-5.7	20.0
Nitroglycerin	Ave	66464	67921		2550	2500	2.2	20.0
2,4,6-Trinitrotoluene	Ave	215192	214560		249	250	-0.3	20.0
4-Amino-2,6-dinitrotoluene	Ave	149948	151920		253	250	1.3	20.0
2-Amino-4,6-dinitrotoluene	Ave	199809	201748		252	250	1.0	20.0
2,6-Dinitrotoluene	Ave	146914	147764		251	250	0.6	20.0
2,4-Dinitrotoluene	Ave	291844	298732		256	250	2.4	20.0
2-Nitrotoluene	Ave	129305	120864		234	250	-6.5	20.0
4-Nitrotoluene	Ave	112799	105756		234	250	-6.2	20.0
3-Nitrotoluene	Ave	144063	132164		229	250	-8.3	20.0
PETN	Ave	71937	71826		2500	2500	-0.2	20.0
1,2-Dinitrobenzene	Lin2		131952		250	250	-0.0	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-191579-1
 SDG No.: _____
 Lab Sample ID: CCV 280-653946/53 Calibration Date: 05/19/2024 05:14
 Instrument ID: CHHPLC_X3 Calib Start Date: 04/17/2024 20:37
 GC Column: UltraCarb5uODS ID: 4.60 (mm) Calib End Date: 04/17/2024 23:41
 Lab File ID: 05180053.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.61	6.47	6.77
RDX	7.63	7.47	7.77
Picric acid	7.86	7.71	8.01
1,3,5-Trinitrobenzene	8.69	8.53	8.83
1,3-Dinitrobenzene	9.31	9.15	9.45
Nitrobenzene	9.66	9.50	9.80
3,5-Dinitroaniline	9.89	9.73	10.03
Tetryl	9.97	9.81	10.11
Nitroglycerin	10.45	10.29	10.59
2,4,6-Trinitrotoluene	10.87	10.77	10.97
4-Amino-2,6-dinitrotoluene	11.05	10.94	11.14
2-Amino-4,6-dinitrotoluene	11.30	11.19	11.39
2,6-Dinitrotoluene	11.45	11.34	11.54
2,4-Dinitrotoluene	11.62	11.52	11.72
2-Nitrotoluene	12.40	12.24	12.54
4-Nitrotoluene	12.81	12.65	12.95
3-Nitrotoluene	13.36	13.20	13.50
PETN	14.41	14.23	14.53
1,2-Dinitrobenzene	8.55	8.40	8.70

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\05180053.D
 Lims ID: CCV INT
 Client ID:
 Sample Type: CCV
 Inject. Date: 19-May-2024 05:14:14 ALS Bottle#: 7 Worklist Smp#: 53
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: CCV INT
 Operator ID: JZ Instrument ID: CHHPLC_X3
 Sublist: chrom-8330_X3*sub26
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 21-May-2024 14:16:42 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1613

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.612	6.618	-0.006	23663	0.2500	0.2477	
8 RDX	1	7.626	7.624	0.002	27089	0.2500	0.2446	
9 2,4,6-Trinitrophenol	1	7.859	7.858	0.001	20345	0.2500	0.2565	
\$ 10 1,2-Dinitrobenzene	1	8.552	8.551	0.001	32988	0.2500	0.2499	
11 1,3,5-Trinitrobenzene	1	8.692	8.684	0.008	54881	0.2500	0.2463	
12 1,3-Dinitrobenzene	1	9.306	9.297	0.009	75369	0.2500	0.2517	
13 Nitrobenzene	1	9.659	9.651	0.008	46294	0.2500	0.2358	
14 3,5-Dinitroaniline	1	9.892	9.877	0.015	56033	0.2500	0.2546	
15 Tetryl	1	9.972	9.964	0.008	42811	0.2500	0.2358	
16 Nitroglycerin	2	10.446	10.437	0.009	169802	2.50	2.55	
17 2,4,6-Trinitrotoluene	1	10.872	10.871	0.001	53640	0.2500	0.2493	
18 4-Amino-2,6-dinitrotoluene	1	11.046	11.037	0.009	37980	0.2500	0.2533	
19 2-Amino-4,6-dinitrotoluene	1	11.299	11.291	0.008	50437	0.2500	0.2524	
20 2,6-Dinitrotoluene	1	11.446	11.437	0.009	36941	0.2500	0.2514	
21 2,4-Dinitrotoluene	1	11.619	11.617	0.002	74683	0.2500	0.2559	
22 o-Nitrotoluene	1	12.399	12.391	0.008	30216	0.2500	0.2337	
23 p-Nitrotoluene	1	12.812	12.804	0.008	26439	0.2500	0.2344	
24 m-Nitrotoluene	1	13.359	13.351	0.008	33041	0.2500	0.2294	
25 PETN	2	14.412	14.384	0.028	179566	2.50	2.50	

Reagents:

8330IntermStk_00081 Amount Added: 25.00 Units: uL

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20240518-133542.b\05180053.d

Injection Date: 19-May-2024 05:14:14

Instrument ID: CHHPLC_X3

Operator ID: JZ

Lims ID: CCV INT

Worklist Smp#: 53

Client ID:

Injection Vol: 100.0 ul

Dil. Factor: 1.0000

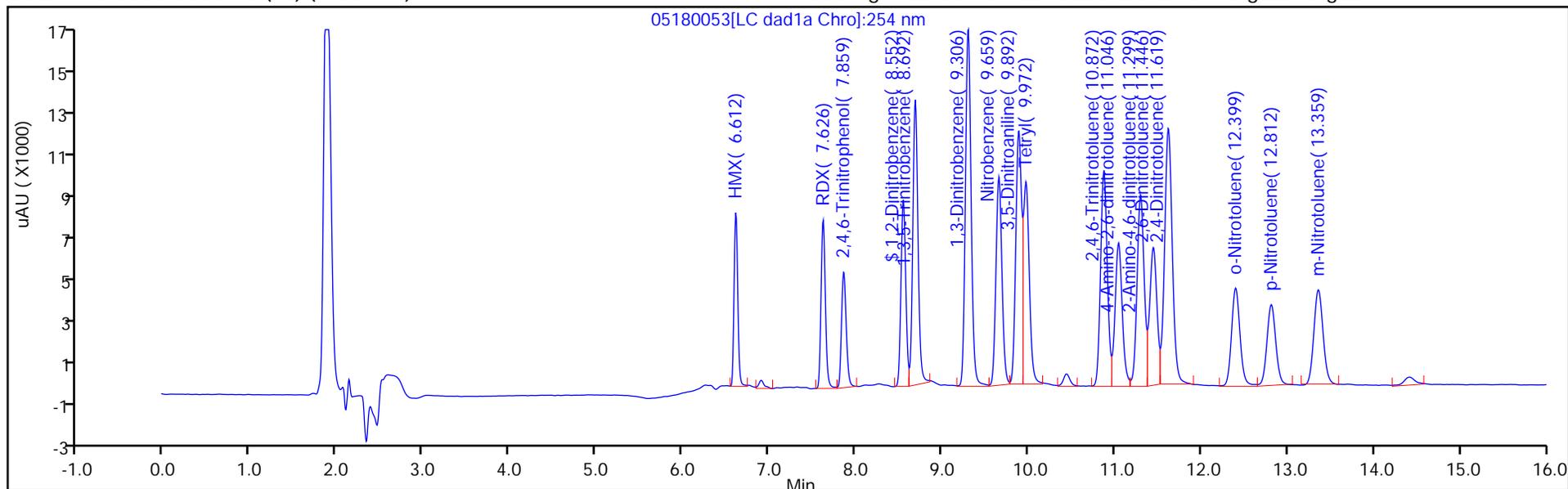
ALS Bottle#: 7

Method: 8330_X3

Limit Group: GCSV - 8330

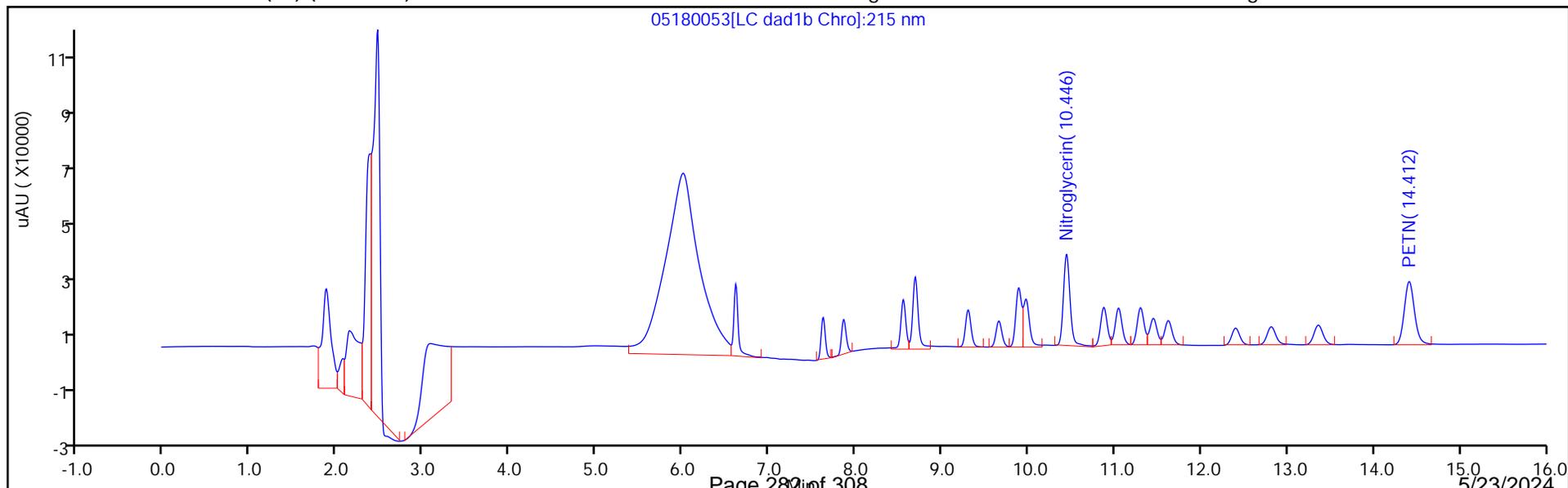
Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-191579-1
 SDG No.: _____
 Lab Sample ID: CCV 280-653946/64 Calibration Date: 05/19/2024 09:26
 Instrument ID: CHHPLC_X3 Calib Start Date: 04/17/2024 20:37
 GC Column: UltraCarb5uODS ID: 4.60 (mm) Calib End Date: 04/17/2024 23:41
 Lab File ID: 05180064.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	95544	94988		249	250	-0.6	20.0
RDX	Ave	110767	108580		245	250	-2.0	20.0
Picric acid	Ave	79326	80656		254	250	1.7	20.0
1,3,5-Trinitrobenzene	Ave	222853	219340		246	250	-1.6	20.0
1,3-Dinitrobenzene	Ave	299436	302608		253	250	1.1	20.0
Nitrobenzene	Ave	196329	184096		234	250	-6.2	20.0
3,5-Dinitroaniline	Lin2		217328		247	250	-1.2	20.0
Tetryl	Ave	181588	179612		247	250	-1.1	20.0
Nitroglycerin	Ave	66464	67960		2560	2500	2.3	20.0
2,4,6-Trinitrotoluene	Ave	215192	215520		250	250	0.2	20.0
4-Amino-2,6-dinitrotoluene	Ave	149948	152992		255	250	2.0	20.0
2-Amino-4,6-dinitrotoluene	Ave	199809	200816		251	250	0.5	20.0
2,6-Dinitrotoluene	Ave	146914	151104		257	250	2.9	20.0
2,4-Dinitrotoluene	Ave	291844	298840		256	250	2.4	20.0
2-Nitrotoluene	Ave	129305	120000		232	250	-7.2	20.0
4-Nitrotoluene	Ave	112799	105328		233	250	-6.6	20.0
3-Nitrotoluene	Ave	144063	130832		227	250	-9.2	20.0
PETN	Ave	71937	72098		2510	2500	0.2	20.0
1,2-Dinitrobenzene	Lin2		132024		250	250	0.0	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-191579-1
 SDG No.: _____
 Lab Sample ID: CCV 280-653946/64 Calibration Date: 05/19/2024 09:26
 Instrument ID: CHHPLC_X3 Calib Start Date: 04/17/2024 20:37
 GC Column: UltraCarb5uODS ID: 4.60 (mm) Calib End Date: 04/17/2024 23:41
 Lab File ID: 05180064.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.62	6.47	6.77
RDX	7.63	7.47	7.77
Picric acid	7.86	7.71	8.01
1,3,5-Trinitrobenzene	8.69	8.53	8.83
1,3-Dinitrobenzene	9.30	9.15	9.45
Nitrobenzene	9.65	9.50	9.80
3,5-Dinitroaniline	9.88	9.73	10.03
Tetryl	9.96	9.81	10.11
Nitroglycerin	10.43	10.29	10.59
2,4,6-Trinitrotoluene	10.87	10.77	10.97
4-Amino-2,6-dinitrotoluene	11.03	10.94	11.14
2-Amino-4,6-dinitrotoluene	11.28	11.19	11.39
2,6-Dinitrotoluene	11.43	11.34	11.54
2,4-Dinitrotoluene	11.61	11.52	11.72
2-Nitrotoluene	12.38	12.24	12.54
4-Nitrotoluene	12.79	12.65	12.95
3-Nitrotoluene	13.33	13.20	13.50
PETN	14.37	14.23	14.53
1,2-Dinitrobenzene	8.55	8.40	8.70

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\05180064.D
 Lims ID: CCV INT
 Client ID:
 Sample Type: CCV
 Inject. Date: 19-May-2024 09:26:49 ALS Bottle#: 7 Worklist Smp#: 64
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: CCV INT
 Operator ID: JZ Instrument ID: CHHPLC_X3
 Sublist: chrom-8330_X3*sub26
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 21-May-2024 14:16:54 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1613

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.620	6.618	0.002	23747	0.2500	0.2485	
8 RDX	1	7.627	7.624	0.003	27145	0.2500	0.2451	
9 2,4,6-Trinitrophenol	1	7.860	7.858	0.002	20164	0.2500	0.2542	
\$ 10 1,2-Dinitrobenzene	1	8.554	8.551	0.003	33006	0.2500	0.2500	
11 1,3,5-Trinitrobenzene	1	8.694	8.684	0.010	54835	0.2500	0.2461	
12 1,3-Dinitrobenzene	1	9.300	9.297	0.003	75652	0.2500	0.2526	
13 Nitrobenzene	1	9.654	9.651	0.003	46024	0.2500	0.2344	
14 3,5-Dinitroaniline	1	9.880	9.877	0.003	54332	0.2500	0.2469	
15 Tetryl	1	9.960	9.964	-0.004	44903	0.2500	0.2473	
16 Nitroglycerin	2	10.434	10.437	-0.003	169900	2.50	2.56	
17 2,4,6-Trinitrotoluene	1	10.867	10.871	-0.004	53880	0.2500	0.2504	
18 4-Amino-2,6-dinitrotoluene	1	11.027	11.037	-0.010	38248	0.2500	0.2551	
19 2-Amino-4,6-dinitrotoluene	1	11.280	11.291	-0.011	50204	0.2500	0.2513	
20 2,6-Dinitrotoluene	1	11.434	11.437	-0.003	37776	0.2500	0.2571	
21 2,4-Dinitrotoluene	1	11.607	11.617	-0.010	74710	0.2500	0.2560	
22 o-Nitrotoluene	1	12.380	12.391	-0.011	30000	0.2500	0.2320	
23 p-Nitrotoluene	1	12.787	12.804	-0.017	26332	0.2500	0.2334	
24 m-Nitrotoluene	1	13.334	13.351	-0.017	32708	0.2500	0.2270	
25 PETN	2	14.367	14.384	-0.017	180244	2.50	2.51	

Reagents:

8330IntermStk_00081

Amount Added: 25.00

Units: uL

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20240518-133542.b\05180064.d

Injection Date: 19-May-2024 09:26:49

Instrument ID: CHHPLC_X3

Operator ID: JZ

Lims ID: CCV INT

Worklist Smp#: 64

Client ID:

Injection Vol: 100.0 ul

Dil. Factor: 1.0000

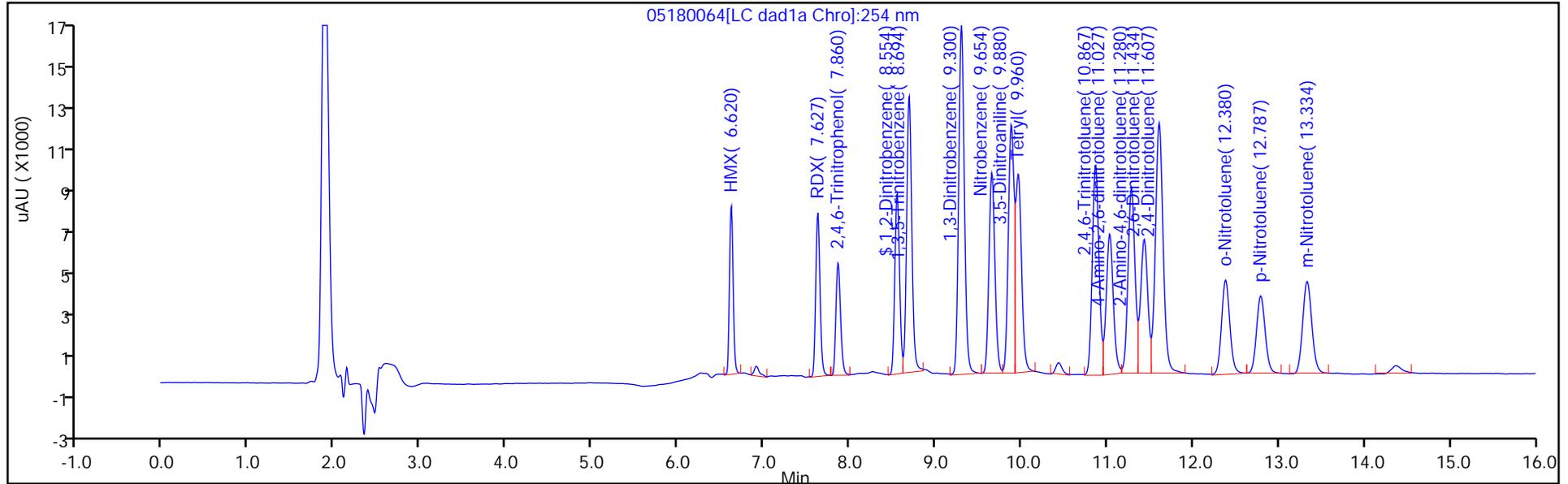
ALS Bottle#: 7

Method: 8330_X3

Limit Group: GCSV - 8330

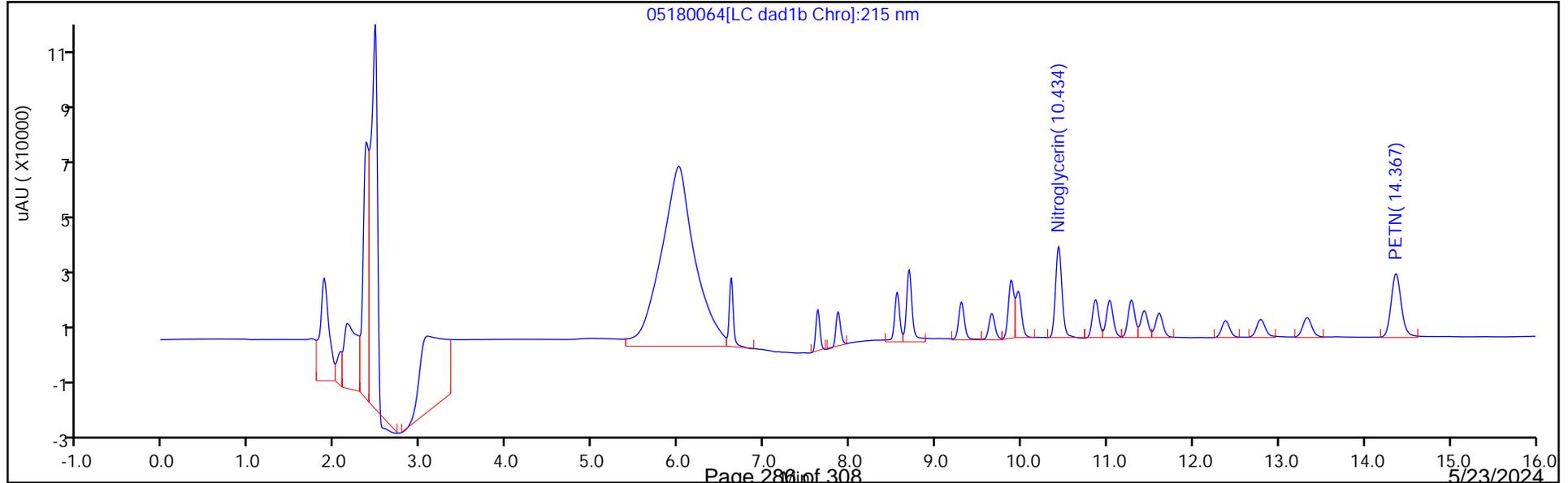
Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver Job No.: 280-191579-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: MB 280-653807/1-A
 Matrix: Water Lab File ID: 05180043.D
 Analysis Method: 8330B Date Collected: _____
 Extraction Method: 3535 Date Extracted: 05/17/2024 13:10
 Sample wt/vol: 500(mL) Date Analyzed: 05/19/2024 01:24
 Con. Extract Vol.: 5(mL) Dilution Factor: 1
 Injection Volume: 100(uL) GC Column: UltraCarb5uODS ID: 4.6(mm)
 % Moisture: _____ % Solids: _____ GPC Cleanup: (Y/N) N
 Cleanup Factor: _____
 Analysis Batch No.: 653946 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.20	U	0.21	0.20	0.084
99-65-0	1,3-Dinitrobenzene	0.10	U	0.11	0.10	0.037
118-96-7	2,4,6-Trinitrotoluene	0.10	U	0.11	0.10	0.045
121-14-2	2,4-Dinitrotoluene	0.080	U	0.10	0.080	0.027
606-20-2	2,6-Dinitrotoluene	0.080	U	0.10	0.080	0.040
35572-78-2	2-Amino-4,6-dinitrotoluene	0.10	U	0.11	0.10	0.051
88-72-2	2-Nitrotoluene	0.20	U	0.21	0.20	0.086
99-08-1	3-Nitrotoluene	0.35	U	0.40	0.35	0.20
19406-51-0	4-Amino-2,6-dinitrotoluene	0.12	U	0.15	0.12	0.058
99-99-0	4-Nitrotoluene	0.40	U	0.41	0.40	0.10
2691-41-0	HMX	0.20	U	0.21	0.20	0.088
98-95-3	Nitrobenzene	0.20	U	0.21	0.20	0.091
55-63-0	Nitroglycerin	2.0	U	2.1	2.0	0.92
78-11-5	PETN	1.0	U	1.1	1.0	0.45
121-82-4	RDX	0.20	U	0.21	0.20	0.052
479-45-8	Tetryl	0.10	U	0.11	0.10	0.032

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	95		83-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\05180043.D
 Lims ID: MB 280-653807/1-A
 Client ID:
 Sample Type: MB
 Inject. Date: 19-May-2024 01:24:43 ALS Bottle#: 43 Worklist Smp#: 43
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: MB 280-653807/1-A
 Operator ID: JZ Instrument ID: CHHPLC_X3
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 21-May-2024 14:16:32 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1613

First Level Reviewer: LV5D Date: 21-May-2024 13:28:30

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
1 Triamine Trinitrobenzene	1		2.444				ND	
2 2,6-diamino-4-nitrotoluene	1		6.460				ND	7
3 TNX	1		6.506				ND	
4 HMX	1		6.618				ND	
5 2,4-diamino-6-nitrotoluene	1		6.633				ND	7
6 DNX	1		6.892				ND	
7 MNX	1		7.258				ND	U
8 RDX	1		7.624				ND	
9 2,4,6-Trinitrophenol	1		7.858				ND	
\$ 10 1,2-Dinitrobenzene	1	8.558	8.551	0.007	24999	0.2000	0.1892	
11 1,3,5-Trinitrobenzene	1	8.711	8.684	0.027	1137		0.005102	
12 1,3-Dinitrobenzene	1		9.297				ND	
13 Nitrobenzene	1		9.651				ND	
14 3,5-Dinitroaniline	1		9.877				ND	
15 Tetryl	1		9.964				ND	
16 Nitroglycerin	2		10.437				ND	
17 2,4,6-Trinitrotoluene	1		10.871				ND	
18 4-Amino-2,6-dinitrotoluene	1		11.037				ND	
19 2-Amino-4,6-dinitrotoluene	1		11.291				ND	
20 2,6-Dinitrotoluene	1		11.437				ND	
21 2,4-Dinitrotoluene	1		11.617				ND	
22 o-Nitrotoluene	1		12.391				ND	
23 p-Nitrotoluene	1		12.804				ND	
24 m-Nitrotoluene	1		13.351				ND	
25 PETN	2		14.384				ND	
26 Ammonium Picrate	1		0.000				ND	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

U - Marked Undetected

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20240518-133542.b\05180043.d

Injection Date: 19-May-2024 01:24:43

Instrument ID: CHHPLC_X3

Operator ID: JZ

Lims ID: MB 280-653807/1-A

Worklist Smp#: 43

Client ID:

Injection Vol: 100.0 ul

Dil. Factor: 1.0000

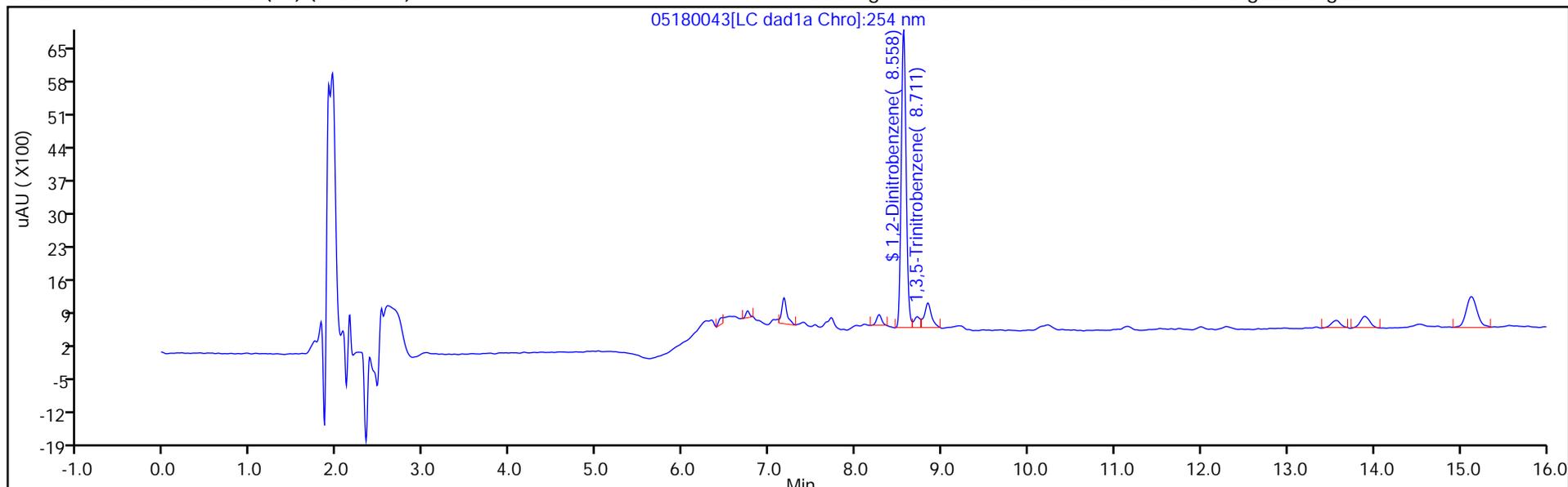
ALS Bottle#: 43

Method: 8330_X3

Limit Group: GCSV - 8330

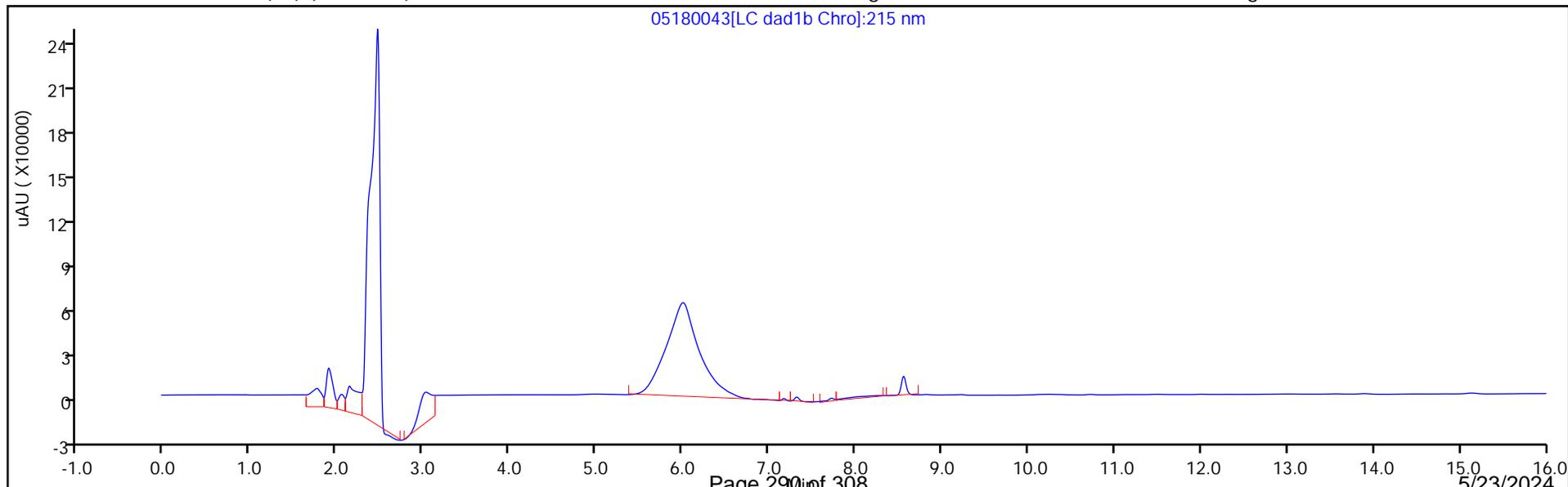
Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\05180043.D
 Lims ID: MB 280-653807/1-A
 Client ID:
 Sample Type: MB
 Inject. Date: 19-May-2024 01:24:43 ALS Bottle#: 43 Worklist Smp#: 43
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: MB 280-653807/1-A
 Operator ID: JZ Instrument ID: CHHPLC_X3
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 21-May-2024 14:16:32 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1613

First Level Reviewer: LV5D Date: 21-May-2024 13:28:30

Compound	Amount Added	Amount Recovered	% Rec.
\$ 10 1,2-Dinitrobenzene	0.2000	0.1892	94.60

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver Job No.: 280-191579-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: LCS 280-653807/2-A
 Matrix: Water Lab File ID: 05180044.D
 Analysis Method: 8330B Date Collected: _____
 Extraction Method: 3535 Date Extracted: 05/17/2024 13:10
 Sample wt/vol: 500(mL) Date Analyzed: 05/19/2024 01:47
 Con. Extract Vol.: 5(mL) Dilution Factor: 1
 Injection Volume: 100(uL) GC Column: UltraCarb5uODS ID: 4.6(mm)
 % Moisture: _____ % Solids: _____ GPC Cleanup: (Y/N) N
 Cleanup Factor: _____
 Analysis Batch No.: 653946 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	2.07		0.21	0.20	0.084
99-65-0	1,3-Dinitrobenzene	1.93		0.11	0.10	0.037
118-96-7	2,4,6-Trinitrotoluene	1.88		0.11	0.10	0.045
121-14-2	2,4-Dinitrotoluene	1.88		0.10	0.080	0.027
606-20-2	2,6-Dinitrotoluene	1.88		0.10	0.080	0.040
35572-78-2	2-Amino-4,6-dinitrotoluene	1.91		0.11	0.10	0.051
88-72-2	2-Nitrotoluene	1.52		0.21	0.20	0.086
99-08-1	3-Nitrotoluene	1.51		0.40	0.35	0.20
19406-51-0	4-Amino-2,6-dinitrotoluene	1.96		0.15	0.12	0.058
99-99-0	4-Nitrotoluene	1.49		0.41	0.40	0.10
2691-41-0	HMX	1.70	M	0.21	0.20	0.088
98-95-3	Nitrobenzene	1.74		0.21	0.20	0.091
55-63-0	Nitroglycerin	19.8		2.1	2.0	0.92
78-11-5	PETN	20.9		1.1	1.0	0.45
121-82-4	RDX	1.86		0.21	0.20	0.052
479-45-8	Tetryl	1.91		0.11	0.10	0.032

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	98		83-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\05180044.D
 Lims ID: LCS 280-653807/2-A
 Client ID:
 Sample Type: LCS
 Inject. Date: 19-May-2024 01:47:39 ALS Bottle#: 44 Worklist Smp#: 44
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: LCS 280-653807/2-A
 Operator ID: JZ Instrument ID: CHHPLC_X3
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 21-May-2024 14:16:32 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1613

First Level Reviewer: LV5D

Date: 21-May-2024 13:28:44

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.614	6.618	-0.004	16266	0.2000	0.1702	M
8 RDX	1	7.627	7.624	0.003	20595	0.2000	0.1859	
9 2,4,6-Trinitrophenol	1	7.854	7.858	-0.004	15640	0.2000	0.1972	
\$ 10 1,2-Dinitrobenzene	1	8.547	8.551	-0.004	25851	0.2000	0.1957	
11 1,3,5-Trinitrobenzene	1	8.687	8.684	0.003	46231	0.2000	0.2075	
12 1,3-Dinitrobenzene	1	9.300	9.297	0.003	57854	0.2000	0.1932	
13 Nitrobenzene	1	9.654	9.651	0.003	34203	0.2000	0.1742	
14 3,5-Dinitroaniline	1	9.880	9.877	0.003	40203	0.2000	0.1830	
15 Tetryl	1	9.967	9.964	0.003	34749	0.2000	0.1914	
16 Nitroglycerin	2	10.434	10.437	-0.003	131364	2.00	1.98	
17 2,4,6-Trinitrotoluene	1	10.867	10.871	-0.004	40442	0.2000	0.1879	
18 4-Amino-2,6-dinitrotoluene	1	11.034	11.037	-0.003	29462	0.2000	0.1965	
19 2-Amino-4,6-dinitrotoluene	1	11.287	11.291	-0.004	38177	0.2000	0.1911	
20 2,6-Dinitrotoluene	1	11.434	11.437	-0.003	27575	0.2000	0.1877	
21 2,4-Dinitrotoluene	1	11.607	11.617	-0.010	54772	0.2000	0.1877	
22 o-Nitrotoluene	1	12.387	12.391	-0.004	19690	0.2000	0.1523	
23 p-Nitrotoluene	1	12.800	12.804	-0.004	16769	0.2000	0.1487	
24 m-Nitrotoluene	1	13.347	13.351	-0.004	21739	0.2000	0.1509	
25 PETN	2	14.387	14.384	0.003	150017	2.00	2.09	
26 Ammonium Picrate	1		0.000			ND	ND	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20240518-133542.b\05180044.d

Injection Date: 19-May-2024 01:47:39

Instrument ID: CHHPLC_X3

Operator ID: JZ

Lims ID: LCS 280-653807/2-A

Worklist Smp#: 44

Client ID:

Injection Vol: 100.0 ul

Dil. Factor: 1.0000

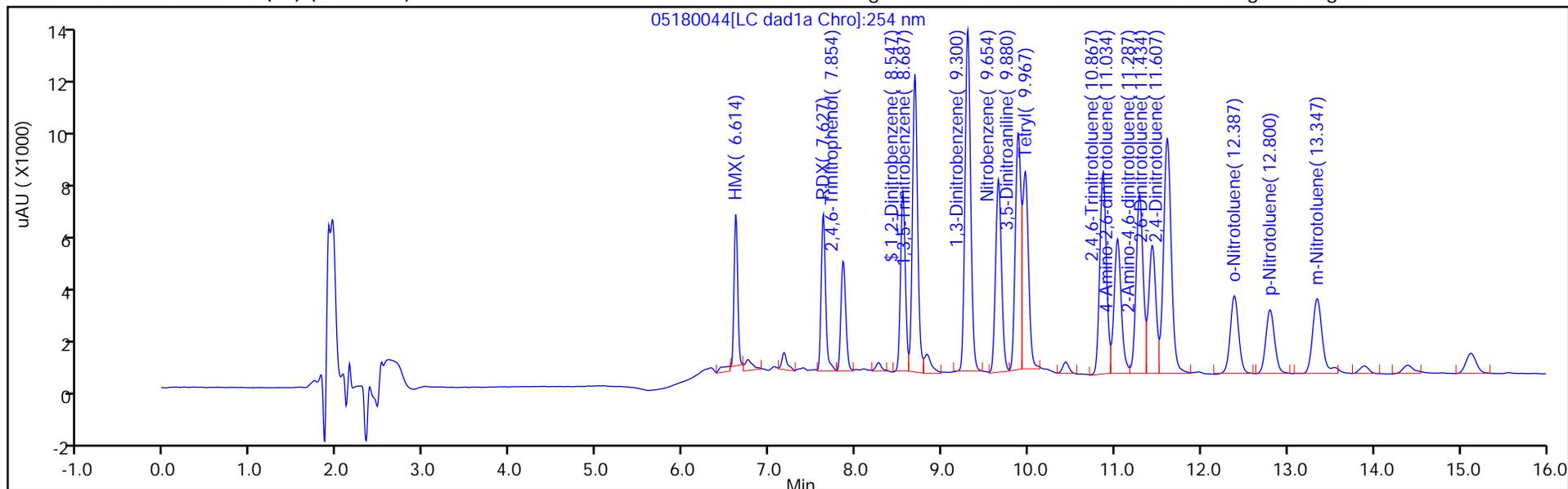
ALS Bottle#: 44

Method: 8330_X3

Limit Group: GCSV - 8330

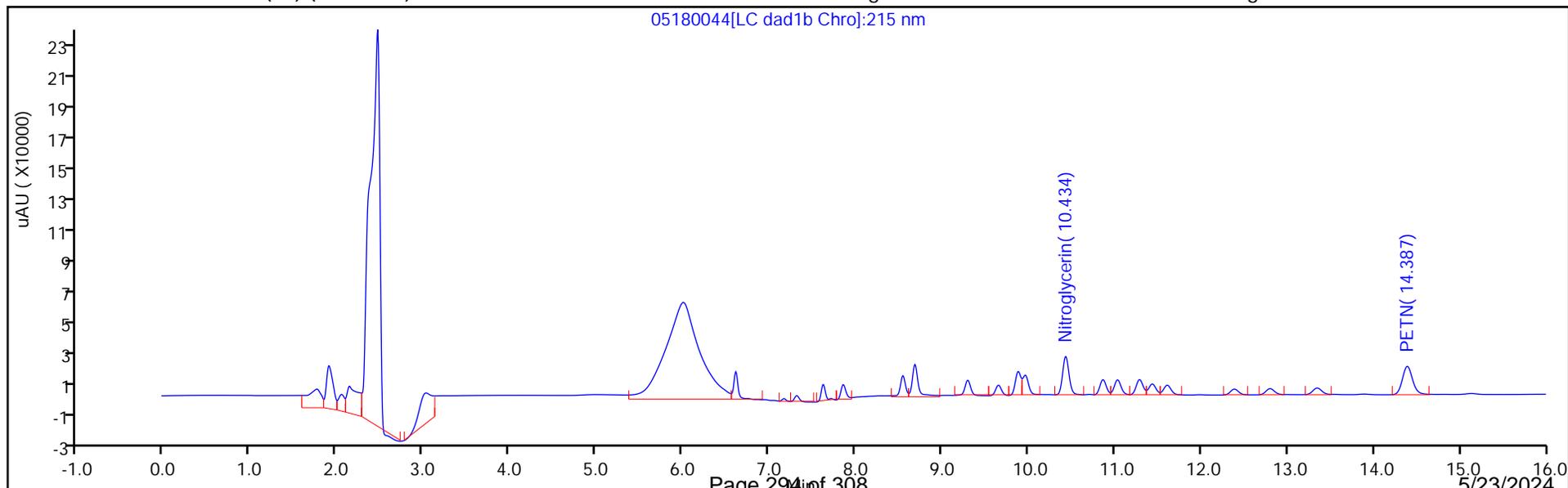
Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\05180044.D
 Lims ID: LCS 280-653807/2-A
 Client ID:
 Sample Type: LCS
 Inject. Date: 19-May-2024 01:47:39 ALS Bottle#: 44 Worklist Smp#: 44
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: LCS 280-653807/2-A
 Operator ID: JZ Instrument ID: CHHPLC_X3
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 21-May-2024 14:16:32 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1613

First Level Reviewer: LV5D Date: 21-May-2024 13:28:44

Compound	Amount Added	Amount Recovered	% Rec.
\$ 10 1,2-Dinitrobenzene	0.2000	0.1957	97.84

Eurofins Denver

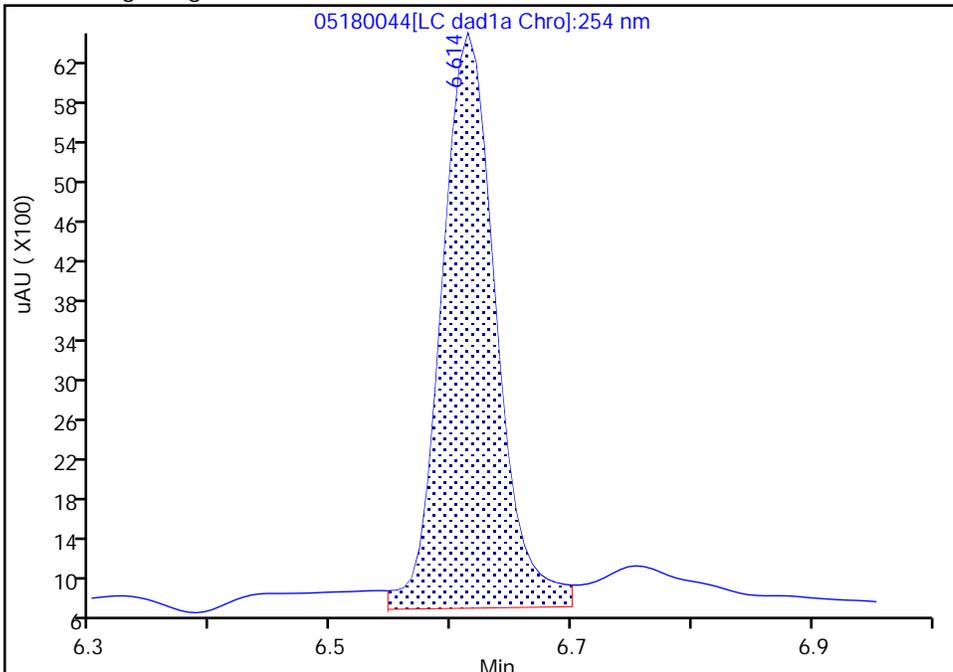
Data File: \\chromfs\denver\chromdata\chhplc_x\20240518-133542.b\05180044.d
Injection Date: 19-May-2024 01:47:39 Instrument ID: CHHPLC_X3
Lims ID: LCS 280-653807/2-A
Client ID:
Operator ID: JZ ALS Bottle#: 44 Worklist Smp#: 44
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

4 HMX, CAS: 2691-41-0

Signal: 1

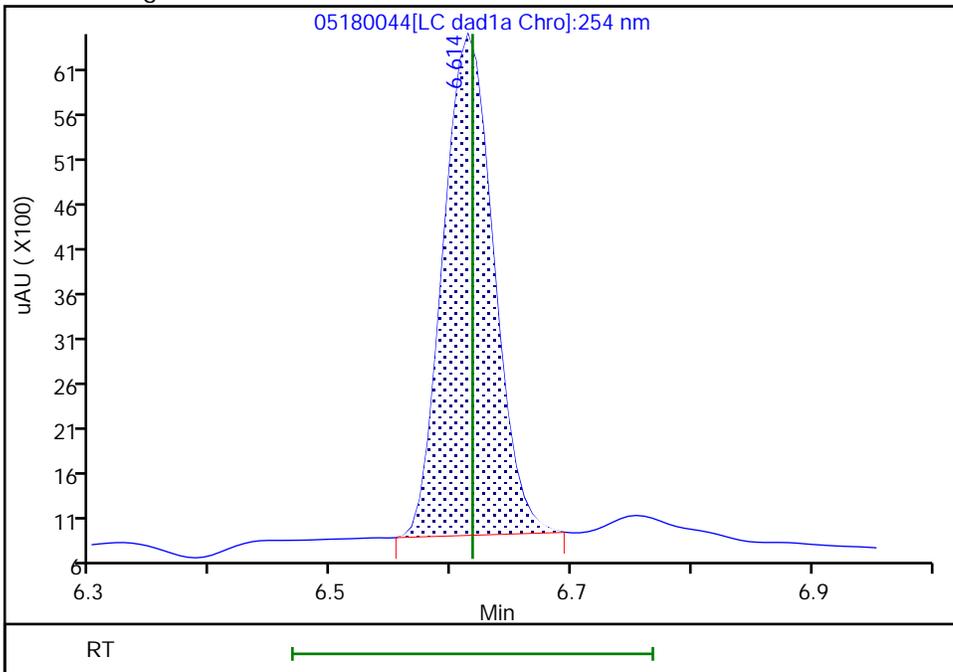
RT: 6.61
Area: 18219
Amount: 0.190688
Amount Units: ug/mL

Processing Integration Results



RT: 6.61
Area: 16266
Amount: 0.170247
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 21-May-2024 13:28:42 -06:00:00 (UTC)

Audit Action: Manually Integrated

Audit Reason: Baseline

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver Job No.: 280-191579-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: LCSD 280-653807/22-A
 Matrix: Water Lab File ID: 05180045.D
 Analysis Method: 8330B Date Collected: _____
 Extraction Method: 3535 Date Extracted: 05/17/2024 13:10
 Sample wt/vol: 500(mL) Date Analyzed: 05/19/2024 02:10
 Con. Extract Vol.: 5(mL) Dilution Factor: 1
 Injection Volume: 100(uL) GC Column: UltraCarb5uODS ID: 4.6(mm)
 % Moisture: _____ % Solids: _____ GPC Cleanup: (Y/N) N
 Cleanup Factor: _____
 Analysis Batch No.: 653946 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	2.08		0.21	0.20	0.084
99-65-0	1,3-Dinitrobenzene	1.92		0.11	0.10	0.037
118-96-7	2,4,6-Trinitrotoluene	1.90		0.11	0.10	0.045
121-14-2	2,4-Dinitrotoluene	1.83		0.10	0.080	0.027
606-20-2	2,6-Dinitrotoluene	1.86		0.10	0.080	0.040
35572-78-2	2-Amino-4,6-dinitrotoluene	1.86		0.11	0.10	0.051
88-72-2	2-Nitrotoluene	1.48		0.21	0.20	0.086
99-08-1	3-Nitrotoluene	1.47		0.40	0.35	0.20
19406-51-0	4-Amino-2,6-dinitrotoluene	1.90		0.15	0.12	0.058
99-99-0	4-Nitrotoluene	1.45		0.41	0.40	0.10
2691-41-0	HMX	1.75	M	0.21	0.20	0.088
98-95-3	Nitrobenzene	1.69		0.21	0.20	0.091
55-63-0	Nitroglycerin	20.1		2.1	2.0	0.92
78-11-5	PETN	21.3		1.1	1.0	0.45
121-82-4	RDX	1.89		0.21	0.20	0.052
479-45-8	Tetryl	1.95		0.11	0.10	0.032

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	98		83-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\05180045.D
 Lims ID: LCSD 280-653807/22-A
 Client ID:
 Sample Type: LCSD
 Inject. Date: 19-May-2024 02:10:33 ALS Bottle#: 45 Worklist Smp#: 45
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: LCSD 280-653807/22-A
 Operator ID: JZ Instrument ID: CHHPLC_X3
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 21-May-2024 14:16:32 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1613

First Level Reviewer: LV5D

Date: 21-May-2024 13:28:50

Compound	Det	RT (min.)	Exp RT (min.)	Diff RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.616	6.618	-0.002	16719	0.2000	0.1750	M
8 RDX	1	7.629	7.624	0.005	20901	0.2000	0.1887	
9 2,4,6-Trinitrophenol	1	7.863	7.858	0.005	15906	0.2000	0.2005	
\$ 10 1,2-Dinitrobenzene	1	8.549	8.551	-0.002	25819	0.2000	0.1954	
11 1,3,5-Trinitrobenzene	1	8.689	8.684	0.005	46394	0.2000	0.2082	
12 1,3-Dinitrobenzene	1	9.296	9.297	-0.001	57597	0.2000	0.1924	
13 Nitrobenzene	1	9.649	9.651	-0.002	33265	0.2000	0.1694	
14 3,5-Dinitroaniline	1	9.883	9.877	0.006	38742	0.2000	0.1764	
15 Tetryl	1	9.963	9.964	-0.001	35403	0.2000	0.1950	
16 Nitroglycerin	2	10.429	10.437	-0.008	133733	2.00	2.01	
17 2,4,6-Trinitrotoluene	1	10.863	10.871	-0.008	40813	0.2000	0.1897	
18 4-Amino-2,6-dinitrotoluene	1	11.036	11.037	-0.001	28514	0.2000	0.1902	
19 2-Amino-4,6-dinitrotoluene	1	11.289	11.291	-0.002	37239	0.2000	0.1864	
20 2,6-Dinitrotoluene	1	11.436	11.437	-0.001	27367	0.2000	0.1863	
21 2,4-Dinitrotoluene	1	11.616	11.617	-0.001	53275	0.2000	0.1825	
22 o-Nitrotoluene	1	12.389	12.391	-0.002	19111	0.2000	0.1478	
23 p-Nitrotoluene	1	12.803	12.804	-0.001	16379	0.2000	0.1452	
24 m-Nitrotoluene	1	13.349	13.351	-0.002	21158	0.2000	0.1469	
25 PETN	2	14.383	14.384	-0.001	153366	2.00	2.13	
26 Ammonium Picrate	1		0.000			ND	ND	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20240518-133542.b\05180045.d

Injection Date: 19-May-2024 02:10:33

Instrument ID: CHHPLC_X3

Operator ID: JZ

Lims ID: LCSD 280-653807/22-A

Worklist Smp#: 45

Client ID:

Injection Vol: 100.0 ul

Dil. Factor: 1.0000

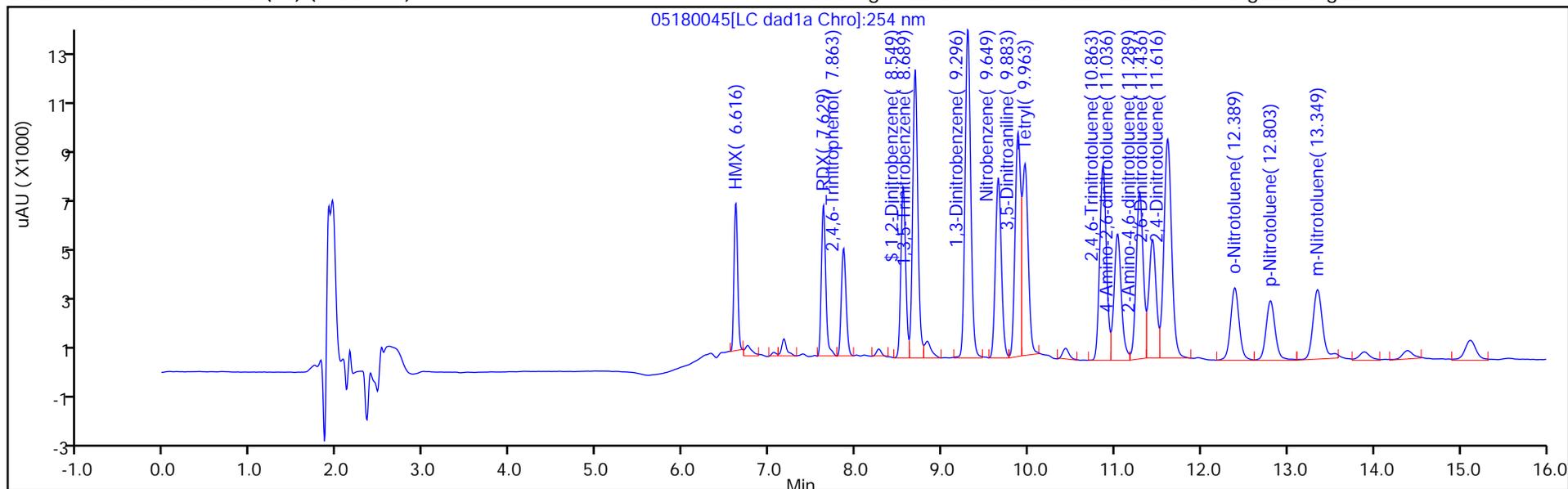
ALS Bottle#: 45

Method: 8330_X3

Limit Group: GCSV - 8330

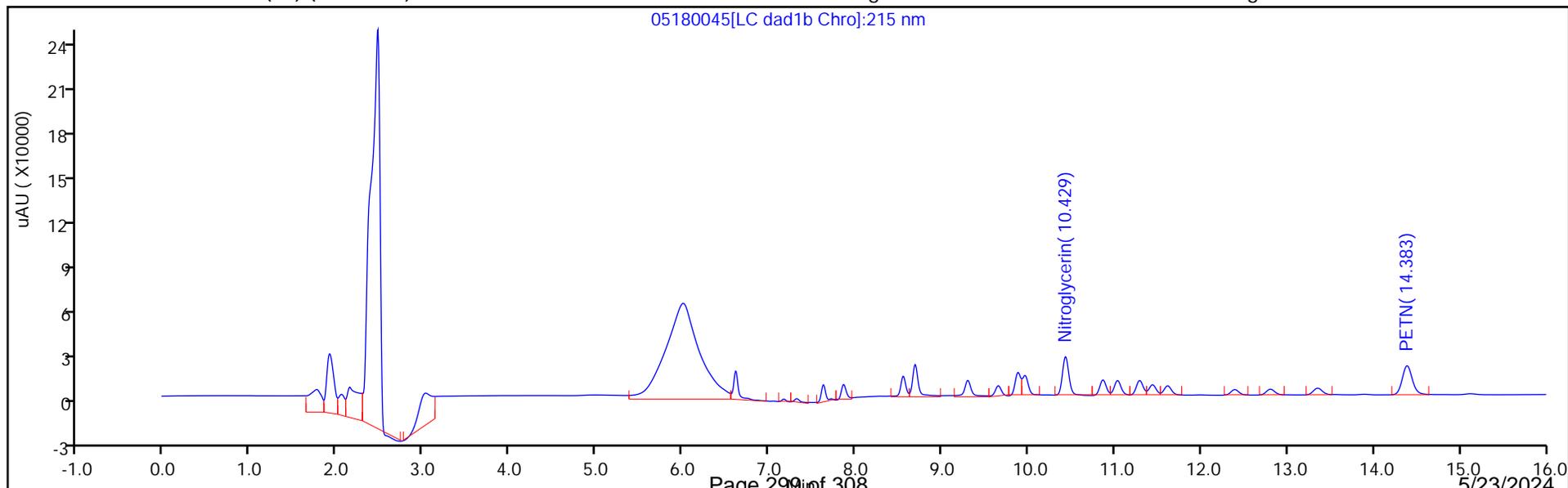
Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Column: UltraCarb5uODS (20) (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\05180045.D
 Lims ID: LCSD 280-653807/22-A
 Client ID:
 Sample Type: LCSD
 Inject. Date: 19-May-2024 02:10:33 ALS Bottle#: 45 Worklist Smp#: 45
 Injection Vol: 100.0 ul Dil. Factor: 1.0000
 Sample Info: LCSD 280-653807/22-A
 Operator ID: JZ Instrument ID: CHHPLC_X3
 Method: \\chromfs\Denver\ChromData\CHHPLC_X\20240518-133542.b\8330_X3.m
 Limit Group: GCSV - 8330
 Last Update: 21-May-2024 14:16:32 Calib Date: 18-Apr-2024 03:08:00
 Integrator: Falcon
 Quant Method: External Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20240417-132364.b\04170028.D
 Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
 Process Host: CTX1613

First Level Reviewer: LV5D Date: 21-May-2024 13:28:50

Compound	Amount Added	Amount Recovered	% Rec.
\$ 10 1,2-Dinitrobenzene	0.2000	0.1954	97.72

Eurofins Denver

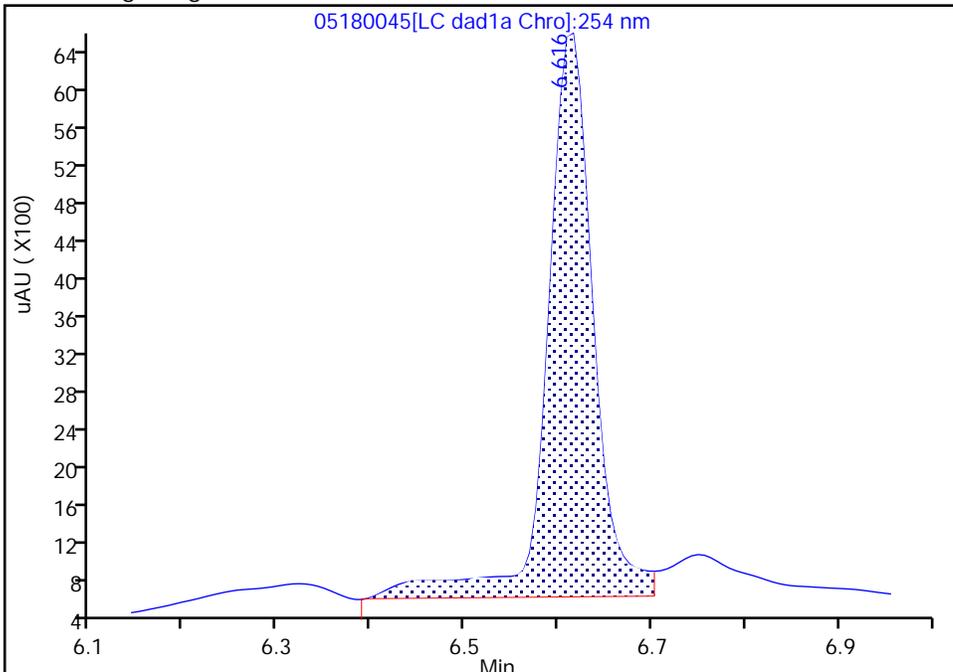
Data File: \\chromfs\denver\chromdata\chhplc_x\20240518-133542.b\05180045.d
Injection Date: 19-May-2024 02:10:33 Instrument ID: CHHPLC_X3
Lims ID: LCSD 280-653807/22-A
Client ID:
Operator ID: JZ ALS Bottle#: 45 Worklist Smp#: 45
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector: LC DAD1B, 254 nm

4 HMX, CAS: 2691-41-0

Signal: 1

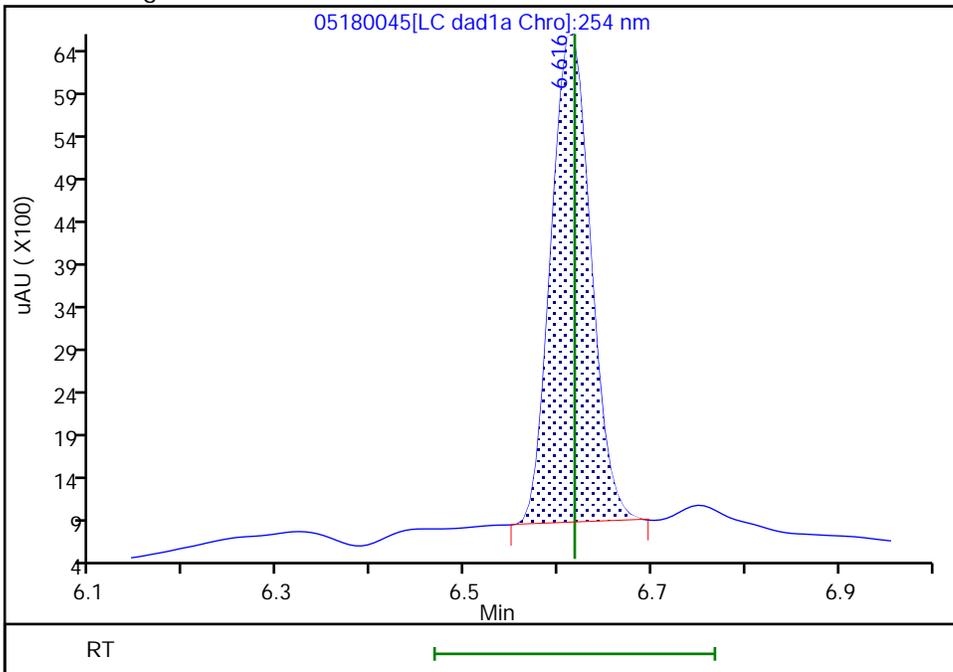
RT: 6.62
Area: 20520
Amount: 0.214771
Amount Units: ug/mL

Processing Integration Results



RT: 6.62
Area: 16719
Amount: 0.174988
Amount Units: ug/mL

Manual Integration Results



Reviewer: LV5D, 21-May-2024 13:28:48 -06:00:00 (UTC)

Audit Action: Manually Integrated

Audit Reason: Baseline

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-191579-1

SDG No.: _____

Instrument ID: CHHPLC_X3 Start Date: 04/17/2024 20:37

Analysis Batch Number: 649950 End Date: 04/18/2024 03:30

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-649950/11		04/17/2024 20:37	1	04170011.D	UltraCarb5uODS 4.6 (mm)
IC 280-649950/12		04/17/2024 21:00	1	04170012.D	UltraCarb5uODS 4.6 (mm)
IC 280-649950/13		04/17/2024 21:23	1	04170013.D	UltraCarb5uODS 4.6 (mm)
IC 280-649950/14		04/17/2024 21:46	1	04170014.D	UltraCarb5uODS 4.6 (mm)
IC 280-649950/15		04/17/2024 22:09	1	04170015.D	UltraCarb5uODS 4.6 (mm)
IC 280-649950/16		04/17/2024 22:32	1	04170016.D	UltraCarb5uODS 4.6 (mm)
IC 280-649950/17		04/17/2024 22:55	1	04170017.D	UltraCarb5uODS 4.6 (mm)
IC 280-649950/18		04/17/2024 23:18	1	04170018.D	UltraCarb5uODS 4.6 (mm)
IC 280-649950/19		04/17/2024 23:41	1	04170019.D	UltraCarb5uODS 4.6 (mm)
ICV 280-649950/20		04/18/2024 00:04	1	04170020.D	UltraCarb5uODS 4.6 (mm)
IC 280-649950/21		04/18/2024 00:27	1		UltraCarb5uODS 4.6 (mm)
IC 280-649950/22		04/18/2024 00:50	1		UltraCarb5uODS 4.6 (mm)
IC 280-649950/23		04/18/2024 01:13	1		UltraCarb5uODS 4.6 (mm)
IC 280-649950/24		04/18/2024 01:36	1		UltraCarb5uODS 4.6 (mm)
IC 280-649950/25		04/18/2024 01:59	1		UltraCarb5uODS 4.6 (mm)
IC 280-649950/26		04/18/2024 02:22	1		UltraCarb5uODS 4.6 (mm)
IC 280-649950/27		04/18/2024 02:45	1		UltraCarb5uODS 4.6 (mm)
IC 280-649950/28		04/18/2024 03:08	1		UltraCarb5uODS 4.6 (mm)
ICV 280-649950/29		04/18/2024 03:30	1		UltraCarb5uODS 4.6 (mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-191579-1

SDG No.: _____

Instrument ID: CHHPLC_X3 Start Date: 05/19/2024 01:01

Analysis Batch Number: 653946 End Date: 05/19/2024 10:35

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-653946/42		05/19/2024 01:01	1	05180042.D	UltraCarb5uODS 4.6 (mm)
MB 280-653807/1-A		05/19/2024 01:24	1	05180043.D	UltraCarb5uODS 4.6 (mm)
LCS 280-653807/2-A		05/19/2024 01:47	1	05180044.D	UltraCarb5uODS 4.6 (mm)
LCSD 280-653807/22-A		05/19/2024 02:10	1	05180045.D	UltraCarb5uODS 4.6 (mm)
ZZZZZ		05/19/2024 02:33	1		UltraCarb5uODS 4.6 (mm)
ZZZZZ		05/19/2024 02:56	1		UltraCarb5uODS 4.6 (mm)
ZZZZZ		05/19/2024 03:19	1		UltraCarb5uODS 4.6 (mm)
ZZZZZ		05/19/2024 03:42	1		UltraCarb5uODS 4.6 (mm)
ZZZZZ		05/19/2024 04:05	1		UltraCarb5uODS 4.6 (mm)
ZZZZZ		05/19/2024 04:28	1		UltraCarb5uODS 4.6 (mm)
280-191579-1	LL1mw-082-240401-GW	05/19/2024 04:51	1	05180052.D	UltraCarb5uODS 4.6 (mm)
CCV 280-653946/53		05/19/2024 05:14	1	05180053.D	UltraCarb5uODS 4.6 (mm)
ZZZZZ		05/19/2024 05:37	1		UltraCarb5uODS 4.6 (mm)
ZZZZZ		05/19/2024 06:00	1		UltraCarb5uODS 4.6 (mm)
ZZZZZ		05/19/2024 06:23	1		UltraCarb5uODS 4.6 (mm)
ZZZZZ		05/19/2024 06:46	1		UltraCarb5uODS 4.6 (mm)
ZZZZZ		05/19/2024 07:09	1		UltraCarb5uODS 4.6 (mm)
ZZZZZ		05/19/2024 07:32	1		UltraCarb5uODS 4.6 (mm)
ZZZZZ		05/19/2024 07:55	1		UltraCarb5uODS 4.6 (mm)
ZZZZZ		05/19/2024 08:18	1		UltraCarb5uODS 4.6 (mm)
ZZZZZ		05/19/2024 08:40	1		UltraCarb5uODS 4.6 (mm)
ZZZZZ		05/19/2024 09:03	1		UltraCarb5uODS 4.6 (mm)
CCV 280-653946/64		05/19/2024 09:26	1	05180064.D	UltraCarb5uODS 4.6 (mm)
ZZZZZ		05/19/2024 09:49	1		UltraCarb5uODS 4.6 (mm)
ZZZZZ		05/19/2024 10:12	1		UltraCarb5uODS 4.6 (mm)
CCV 280-653946/67		05/19/2024 10:35	1		UltraCarb5uODS 4.6 (mm)

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-191579-1

SDG No.: _____

Batch Number: 649950 Batch Start Date: 04/17/24 20:37 Batch Analyst: Zhang, Jian

Batch Method: 8330B Batch End Date: _____

Lab Sample ID	Client Sample ID	Method Chain	Matrix	Basis	FinalAmount	8330 DMT 00016	8330 LCS 00134	8330 OP DMT 00026	8330IntermStk 00080	8330Surrogate 00154
IC 280-649950/11		8330B			1 mL	125 uL			250 uL	
IC 280-649950/12		8330B			1 mL	50 uL			100 uL	
IC 280-649950/13		8330B			1 mL	35 uL			70 uL	
IC 280-649950/14		8330B			1 mL	20 uL			40 uL	
IC 280-649950/15		8330B			1 mL	12.5 uL			25 uL	
IC 280-649950/16		8330B			1 mL	5 uL			10 uL	
IC 280-649950/17		8330B			1 mL	2.5 uL			5 uL	
IC 280-649950/18		8330B			1 mL	1 uL			2 uL	
IC 280-649950/19		8330B			1 mL	0.5 uL			1 uL	
ICV 280-649950/20		8330B			1 mL		50 uL	50 uL		50 uL

Batch Notes	
Methanol ID	233990

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-191579-1

SDG No.: _____

Batch Number: 653807 Batch Start Date: 05/17/24 13:10 Batch Analyst: Hermanova, Eva

Batch Method: 3535 Batch End Date: 05/17/24 16:31

Lab Sample ID	Client Sample ID	Method Chain	Matrix	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	8330 LCS 00135	8330Surrogate 00155
MB 280-653807/1		3535, 8330B					500 mL	5 mL		0.1 mL
LCS 280-653807/2		3535, 8330B					500 mL	5 mL	0.1 mL	0.1 mL
280-191579-B-1	LL1mw-082-24040 1-GW	3535, 8330B	Water	T	734.2 g	281.7 g	452.5 mL	5 mL		0.1 mL
LCSD 280-653807/22		3535, 8330B					500 mL	5 mL	0.1 mL	0.1 mL

Batch Notes	
First Start time	05/17/2024 13:30
First End time	05/17/2024 15:30
SPE Cartridge Type	Sep-Pak Porapak Rdx
SPE Cartridge Lot ID	005434002A
Balance ID	834419814
Balance is Level? (Y/N)	yes
Manifold ID	Manifold: A, B
QC Bottle Lot ID	0202401I
Pipette/Syringe/Dispenser ID	Dobby/ DOD/ Pugsley
Solvent Name	CaCl2
Solvent Lot #	CaCl2_Sol_00092
Rinse Solvent Name	Acetonitrile
Rinse Solvent Lot	Acetonitrile_00087
Acid Name	0.2% AAinACN
Acid ID	0.2% AAinACN_00005
Analyst ID - Spike Analyst	MJ
Analyst ID - Spike Witness Analyst	Reviewer: EH
Batch Comment	DV-OP-0017; sodium chloride_29

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents



Chain of Custody Record

COC No.: RVAAP-1445TA
Date: 5/14/24

Page 1 of 1



280-191579 Chain of Custody

Name Leidos
Address: 8866 Commons Blvd, Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event Spring 2024
Job/P.O. No.: P010216426
Sampler (Signature): *[Signature]* (Printed Name) *Rebecca*

Laboratory Name: TA-Denver
Address: 4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0107
Contact: Patrick McEntee

OBSERVATIONS, COMMENTS
SPECIAL INSTRUCTIONS

Laboratory No	Sample ID	Site Type	Depth	Date	Time	Matrix	Explosives (6)(A)	Requested Parameters	Total Number of Containers	Temperature Blank
	LL1mw-082-240401-GW	-	-	5/14/24	0835	W	2		2	

Relinquished by: *[Signature]*
Signature: *[Signature]*
Printed Name: *Tom Jordan*
Leidos
Company

Received by: *[Signature]*
Signature: *[Signature]*
Printed Name: *[Signature]*
Company: *[Signature]*

Date: 5/14/24
Time: 1800

Notes:
A. Cool, 4C
B. HCl, pH<2, Cool, 4C
C. HNO3, pH<2, Cool, 4C
D. NaOH, pH>12, Cool 4C
1. SW 8260B
2. SW 8270D
3. SW 8270D SIM
4. SW 8082A
5. SW 8081B
6. SW 8330
7. SW 6010/6020/7470
8. SW 9012B
9. SW 9034
10. SW 9056/9056A
11. SW 6860
12. EPA 353.2
13. SW 7196
14. SM2320B

Shipment Method: Courier
738Z 6401 0787

Temperature Blank
Lab:
Leidos
8866 Commons Drive
Twinsburg, OH 44087
(330) 405-5802

White Laboratory
Pink Project Manager
Yellow Project QAO
Goldenrod Field Project Manager

[Signature]

Login Sample Receipt Checklist

Client: Leidos, Inc.

Job Number: 280-191579-1

Login Number: 191579
List Number: 1
Creator: Roehsner, Karen P

List Source: Eurofins Denver

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	