ANALYTICAL REPORT

Job Number: 570-9778-1

Job Description: A9J0277

For:
Apex Laboratory
6700 SW Sandburg St.
Tigard, OR 97223

Attention: Philip Nerenberg

Approved for release.
Ritu Sedha
Project Manager I
10/28/2019 2:18 PM

Designee for
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10/28/2019

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

CASE NARRATIVE

Client: Apex Laboratory

Project: A9J0277

Report Number: 570-9778-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 10/10/2019 at 10:30 AM; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 2.9 degrees Celsius.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2 degrees Celsius of the required temperature or method specified range. For samples with a specified temperature of 4 degrees Celsius, samples with a temperature ranging from just above freezing temperature of water to 6 degrees Celsius 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.

ORGANOTINS BY GC/MS (SOLID)

Samples A9J0277-01 (570-9778-1), A9J0277-03 (570-9778-2) and A9J0277-04 (570-9778-3) were analyzed for Organotins in accordance with Organotins (GC/MS SIM). The samples were prepared on 10/11/2019 and analyzed on 10/16/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ORGANOTINS BY GC/MS (AQUEOUS)

Sample A9J0277-05 (570-9778-4) was analyzed for Organotins in accordance with Organotins (GC/MS SIM). The sample was prepared on 10/15/2019 and analyzed on 10/16/2019.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-26040. LCS/LCSD were performed to meet QC requirement.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Apex Laboratory
Project/Site: A9J0277

Job ID: 570-9778-1

Client Sample ID: A9J0277-01 — Lab Sample ID: 570-9778-1

No Detections.

Client Sample ID: A9J0277-03 — Lab Sample ID: 570-9778-2

No Detections.

Client Sample ID: A9J0277-04 — Lab Sample ID: 570-9778-3

No Detections.

Client Sample ID: A9J0277-05 — Lab Sample ID: 570-9778-4

No Detections.

This Detection Summary does not include radiochemical test results.

Method: Organotins SIM - Organotins (GC/MS SIM)

Client Sample ID: A9J0277-01
Date Collected: 10/07/19 18:40
Date Received: 10/10/19 10:30

Lab Sample ID: 570-9778-1
Matrix: Sediment
Percent Solids: 71.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	ND		4.1	2.0	ug/Kg	☼	10/11/19 15:57	10/16/19 15:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*54*		*27 - 135*	*10/11/19 15:57*	*10/16/19 15:21*	*1*

Client Sample ID: A9J0277-03
Date Collected: 10/07/19 18:57
Date Received: 10/10/19 10:30

Lab Sample ID: 570-9778-2
Matrix: Sediment
Percent Solids: 72.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	ND		4.1	2.0	ug/Kg	☼	10/11/19 15:57	10/16/19 15:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*53*		*27 - 135*	*10/11/19 15:57*	*10/16/19 15:39*	*1*

Client Sample ID: A9J0277-04
Date Collected: 10/07/19 19:05
Date Received: 10/10/19 10:30

Lab Sample ID: 570-9778-3
Matrix: Sediment
Percent Solids: 73.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	ND		4.0	2.0	ug/Kg	☼	10/11/19 15:57	10/16/19 15:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*56*		*27 - 135*	*10/11/19 15:57*	*10/16/19 15:57*	*1*

Client Sample ID: A9J0277-05
Date Collected: 10/07/19 19:15
Date Received: 10/10/19 10:30

Lab Sample ID: 570-9778-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	ND		3.0	1.3	ng/L		10/15/19 12:00	10/16/19 21:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*44*		*19 - 121*	*10/15/19 12:00*	*10/16/19 21:18*	*1*

Default Detection Limits

Client: Apex Laboratory
Project/Site: A9J0277

Job ID: 570-9778-1

Method: Organotins SIM - Organotins (GC/MS SIM)

Prep: Organotin

Analyte	RL	MDL	Units
Tributyltin	3.0	1.4	ng/L

Method: Organotins SIM - Organotins (GC/MS SIM)

Prep: Organotin Prep

Analyte	RL	MDL	Units
Tributyltin	3.0	1.5	ug/Kg

Surrogate Summary

Client: Apex Laboratory
Project/Site: A9J0277

Job ID: 570-9778-1

Method: Organotins SIM - Organotins (GC/MS SIM)

Matrix: Sediment

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	TPTT (27-135)
570-9778-1	A9J0277-01	54
570-9778-2	A9J0277-03	53
570-9778-3	A9J0277-04	56

Surrogate Legend

TPTT = Tripentyltin

Method: Organotins SIM - Organotins (GC/MS SIM)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	TPTT (27-135)
570-9781-A-1-B MS	Matrix Spike	66
570-9781-A-1-C MSD	Matrix Spike Duplicate	63
LCS 570-25450/2-A	Lab Control Sample	71
MB 570-25450/1-A	Method Blank	79

Surrogate Legend

TPTT = Tripentyltin

Method: Organotins SIM - Organotins (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	TPTT (19-121)
570-9778-4	A9J0277-05	44
LCS 570-26040/2-A	Lab Control Sample	53
LCSD 570-26040/3-A	Lab Control Sample Dup	52
MB 570-26040/1-A	Method Blank	47

Surrogate Legend

TPTT = Tripentyltin

Method: Organotins SIM - Organotins (GC/MS SIM)

Lab Sample ID: MB 570-25450/1-A
Matrix: Solid
Analysis Batch: 26370

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 25450

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	ND		3.0	1.5	ug/Kg		10/11/19 15:57	10/16/19 14:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*79*		*27 - 135*	*10/11/19 15:57*	*10/16/19 14:09*	*1*

Lab Sample ID: LCS 570-25450/2-A
Matrix: Solid
Analysis Batch: 26370

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 25450

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tributyltin	100	79.48		ug/Kg		79	33 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tripentyltin	*71*		*27 - 135*

Lab Sample ID: 570-9781-A-1-B MS
Matrix: Solid
Analysis Batch: 26370

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 25450

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tributyltin	ND		116	84.89		ug/Kg	☼	73	34 - 142

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tripentyltin	*66*		*27 - 135*

Lab Sample ID: 570-9781-A-1-C MSD
Matrix: Solid
Analysis Batch: 26370

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 25450

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tributyltin	ND		113	84.72		ug/Kg	☼	75	34 - 142	0	50

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tripentyltin	*63*		*27 - 135*

Lab Sample ID: MB 570-26040/1-A
Matrix: Water
Analysis Batch: 26370

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 26040

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tributyltin	ND		3.0	1.4	ng/L		10/15/19 11:43	10/16/19 17:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*47*		*19 - 121*	*10/15/19 11:43*	*10/16/19 17:28*	*1*

Method: Organotins SIM - Organotins (GC/MS SIM) (Continued)

Lab Sample ID: LCS 570-26040/2-A
Matrix: Water
Analysis Batch: 28601

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 26040

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Tributyltin			200	116.5		ng/L		58	50 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tripentyltin	*53*		*19 - 121*

Lab Sample ID: LCSD 570-26040/3-A
Matrix: Water
Analysis Batch: 26370

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 26040

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tributyltin			200	130.9		ng/L		65	50 - 120	12	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tripentyltin	*52*		*19 - 121*

QC Association Summary

Client: Apex Laboratory
Project/Site: A9J0277

Job ID: 570-9778-1

GC/MS Semi VOA

Prep Batch: 25450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-9778-1	A9J0277-01	Total/NA	Sediment	Organotin Prep	
570-9778-2	A9J0277-03	Total/NA	Sediment	Organotin Prep	
570-9778-3	A9J0277-04	Total/NA	Sediment	Organotin Prep	
MB 570-25450/1-A	Method Blank	Total/NA	Solid	Organotin Prep	
LCS 570-25450/2-A	Lab Control Sample	Total/NA	Solid	Organotin Prep	
570-9781-A-1-B MS	Matrix Spike	Total/NA	Solid	Organotin Prep	
570-9781-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	Organotin Prep	

Prep Batch: 26040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-9778-4	A9J0277-05	Total/NA	Water	Organotin	
MB 570-26040/1-A	Method Blank	Total/NA	Water	Organotin	
LCS 570-26040/2-A	Lab Control Sample	Total/NA	Water	Organotin	
LCSD 570-26040/3-A	Lab Control Sample Dup	Total/NA	Water	Organotin	

Analysis Batch: 26370

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-9778-1	A9J0277-01	Total/NA	Sediment	Organotins SIM	25450
570-9778-2	A9J0277-03	Total/NA	Sediment	Organotins SIM	25450
570-9778-3	A9J0277-04	Total/NA	Sediment	Organotins SIM	25450
570-9778-4	A9J0277-05	Total/NA	Water	Organotins SIM	26040
MB 570-25450/1-A	Method Blank	Total/NA	Solid	Organotins SIM	25450
MB 570-26040/1-A	Method Blank	Total/NA	Water	Organotins SIM	26040
LCS 570-25450/2-A	Lab Control Sample	Total/NA	Solid	Organotins SIM	25450
LCSD 570-26040/3-A	Lab Control Sample Dup	Total/NA	Water	Organotins SIM	26040
570-9781-A-1-B MS	Matrix Spike	Total/NA	Solid	Organotins SIM	25450
570-9781-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	Organotins SIM	25450

Analysis Batch: 28601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-26040/2-A	Lab Control Sample	Total/NA	Water	Organotins SIM	26040

Lab Chronicle

Client: Apex Laboratory
Project/Site: A9J0277

Job ID: 570-9778-1

Client Sample ID: A9J0277-01

Date Collected: 10/07/19 18:40
Date Received: 10/10/19 10:30

Lab Sample ID: 570-9778-1

Matrix: Sediment
Percent Solids: 71.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Organotin Prep			10.3 g	5 mL	25450	10/11/19 15:57	OM8W	ECL 1
Total/NA	Analysis	Organotins SIM		1			26370	10/16/19 15:21	AJ2Q	ECL 1
	Instrument ID: GCMSY									

Client Sample ID: A9J0277-03

Date Collected: 10/07/19 18:57
Date Received: 10/10/19 10:30

Lab Sample ID: 570-9778-2

Matrix: Sediment
Percent Solids: 72.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Organotin Prep			10.1 g	5 mL	25450	10/11/19 15:57	OM8W	ECL 1
Total/NA	Analysis	Organotins SIM		1			26370	10/16/19 15:39	AJ2Q	ECL 1
	Instrument ID: GCMSY									

Client Sample ID: A9J0277-04

Date Collected: 10/07/19 19:05
Date Received: 10/10/19 10:30

Lab Sample ID: 570-9778-3

Matrix: Sediment
Percent Solids: 73.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Organotin Prep			10.3 g	5 mL	25450	10/11/19 15:57	OM8W	ECL 1
Total/NA	Analysis	Organotins SIM		1			26370	10/16/19 15:57	AJ2Q	ECL 1
	Instrument ID: GCMSY									

Client Sample ID: A9J0277-05

Date Collected: 10/07/19 19:15
Date Received: 10/10/19 10:30

Lab Sample ID: 570-9778-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Organotin			1008.8 mL	1 mL	26040	10/15/19 12:00	OM8W	ECL 1
Total/NA	Analysis	Organotins SIM		1			26370	10/16/19 21:18	AJ2Q	ECL 1
	Instrument ID: GCMSY									

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Accreditation/Certification Summary

Client: Apex Laboratory
Project/Site: A9J0277

Job ID: 570-9778-1

Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0781	03-13-20
California	SCAQMD LAP	17LA0919	11-30-19
California	State	2944	09-29-20
Guam	State	19-004R	10-31-19
Hawaii	State	<cert No.>	07-02-20
Nevada	State	CA00111	07-31-20
Oregon	NELAP	CA300001	01-29-20

Method Summary

Client: Apex Laboratory
Project/Site: A9J0277

Job ID: 570-9778-1

Method	Method Description	Protocol	Laboratory
Organotins SIM	Organotins (GC/MS SIM)	Lab SOP	ECL 1
Organotin	Extraction (Organotins)	WRC	ECL 1
Organotin Prep	Extraction (Organotins)	None	ECL 1

Protocol References:

Lab SOP = Laboratory Standard Operating Procedure

None = None

WRC = WRC Notebook 11431-39, ICI America's Western Research Center May, 1989.

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Sample Summary

Client: Apex Laboratory
Project/Site: A9J0277

Job ID: 570-9778-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-9778-1	A9J0277-01	Sediment	10/07/19 18:40	10/10/19 10:30	
570-9778-2	A9J0277-03	Sediment	10/07/19 18:57	10/10/19 10:30	
570-9778-3	A9J0277-04	Sediment	10/07/19 19:05	10/10/19 10:30	
570-9778-4	A9J0277-05	Water	10/07/19 19:15	10/10/19 10:30	

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Instrument ID: GCMSY Analysis Batch Number: 24154

Lab Sample ID: ICV 570-24154/7 Client Sample ID:

Date Analyzed: 10/07/19 14:45 Lab File ID: Y07OCT08.D GC Column: AAA Agilent J ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dibutyltin	8.52	Baseline	nguyenv	10/07/19 16:37

Organotins SIM

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Instrument ID: GCMSY Analysis Batch Number: 26370

Lab Sample ID: MB 570-25450/1-A Client Sample ID:

Date Analyzed: 10/16/19 14:09 Lab File ID: Y16OCT03.D GC Column: AAA Agilent J ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tributyltin	8.15	Baseline	nguyenv	10/16/19 16:40

Lab Sample ID: 570-9778-1 Client Sample ID: A9J0277-01

Date Analyzed: 10/16/19 15:21 Lab File ID: Y16OCT07.D GC Column: AAA Agilent J ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tributyltin	8.15	Invalid Compound ID	nguyenv	10/18/19 17:25

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MS-Otins-Ca1_00005	02/12/20	10/07/19	Hexane, Lot 58130	4 mL	MS-Otins-CS-D_00004	24 uL	Dibutyltin	3 ug/L
							Monobutyltin	3 ug/L
							Tetra-n-butyltin	3 ug/L
							Tributyltin	3 ug/L
							Tripentyltin	3 ug/L
					MS-Otins-ISW_00002	80 uL	Tetra-n-propyl tin	100 ug/L
.MS-Otins-CS-D_00004	04/03/20	10/07/19	Hexane, Lot 58130	10 mL	MS-Otins-CSmx_00003	5 mL	Dibutyltin	0.5 ug/mL
							Monobutyltin	0.5 ug/mL
							Tetra-n-butyltin	0.5 ug/mL
							Tributyltin	0.5 ug/mL
							Tripentyltin	0.5 ug/mL
..MS-Otins-CSmx_00003	04/03/20	10/07/19	Hexane, Lot 58130	10 mL	MS-Otins-CS_00002	5 uL	Dibutyltin	1 ug/mL
							Monobutyltin	1 ug/mL
							Tetra-n-butyltin	1 ug/mL
							Tributyltin	1 ug/mL
					MS-OtinsR-Sr_00001	5 uL	Tripentyltin	1 ug/mL
...MS-Otins-CS_00002	08/31/22	Restek, Lot A0152198			(Purchased Reagent)		Dibutyltin	2000 ug/mL
							Monobutyltin	2000 ug/mL
							Tetra-n-butyltin	2000 ug/mL
							Tributyltin	2000 ug/mL
...MS-OtinsR-Sr_00001	09/30/20	Restek, Lot A0130846			(Purchased Reagent)		Tripentyltin	2000 ug/mL
.MS-Otins-ISW_00002	02/12/20	08/13/19	Hexane, Lot 58130	20 mL	MS-Otins-IS_00002	50 uL	Tetra-n-propyl tin	5 ug/mL
..MS-Otins-IS_00002	04/24/22	AccuStandard, Lot 219041552			(Purchased Reagent)		Tetra-n-propyl tin	2000 ug/mL
MS-Otins-Ca2_00003	02/12/20	10/07/19	Hexane, Lot 58130	4 mL	MS-Otins-CS-D_00004	400 uL	Dibutyltin	50 ug/L
							Monobutyltin	50 ug/L
							Tetra-n-butyltin	50 ug/L
							Tributyltin	50 ug/L
							Tripentyltin	50 ug/L
					MS-Otins-ISW_00002	80 uL	Tetra-n-propyl tin	100 ug/L
.MS-Otins-CS-D_00004	04/03/20	10/07/19	Hexane, Lot 58130	10 mL	MS-Otins-CSmx_00003	5 mL	Dibutyltin	0.5 ug/mL
							Monobutyltin	0.5 ug/mL
							Tetra-n-butyltin	0.5 ug/mL
							Tributyltin	0.5 ug/mL
							Tripentyltin	0.5 ug/mL
..MS-Otins-CSmx_00003	04/03/20	10/07/19	Hexane, Lot 58130	10 mL	MS-Otins-CS_00002	5 uL	Dibutyltin	1 ug/mL
							Monobutyltin	1 ug/mL
							Tetra-n-butyltin	1 ug/mL
							Tributyltin	1 ug/mL
					MS-OtinsR-Sr_00001	5 uL	Tripentyltin	1 ug/mL
...MS-Otins-CS_00002	08/31/22	Restek, Lot A0152198			(Purchased Reagent)		Dibutyltin	2000 ug/mL
							Monobutyltin	2000 ug/mL
							Tetra-n-butyltin	2000 ug/mL
							Tributyltin	2000 ug/mL
...MS-OtinsR-Sr_00001	09/30/20	Restek, Lot A0130846			(Purchased Reagent)		Tripentyltin	2000 ug/mL
.MS-Otins-ISW_00002	02/12/20	08/13/19	Hexane, Lot 58130	20 mL	MS-Otins-IS_00002	50 uL	Tetra-n-propyl tin	5 ug/mL
..MS-Otins-IS_00002	04/24/22	AccuStandard, Lot 219041552			(Purchased Reagent)		Tetra-n-propyl tin	2000 ug/mL
MS-Otins-Ca3_00002	02/12/20	08/13/19	Hexane, Lot 58130	4 mL	MS-Otins-ISW_00002	80 uL	Tetra-n-propyl tin	100 ug/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-Otins-ISW_00002	02/12/20	08/13/19	Hexane, Lot 58130	20 mL	MS-Otins-IS_00002	50 uL	Tetra-n-propyl tin	5 ug/mL
..MS-Otins-IS_00002	04/24/22	AccuStandard, Lot 219041552			(Purchased Reagent)		Tetra-n-propyl tin	2000 ug/mL
MS-Otins-Ca3_00002	02/12/20	08/13/19	Hexane, Lot 58130	4 mL	MS-Otins-CS-D_00003	800 uL	Tributyltin	100 ug/L
							Tripentyltin	100 ug/L
.MS-Otins-CS-D_00003	02/12/20	08/13/19	Hexane, Lot 58130	10 mL	MS-Otins-CSmx_00002	5 mL	Tributyltin	0.5 ug/mL
							Tripentyltin	0.5 ug/mL
..MS-Otins-CSmx_00002	02/12/20	08/13/19	Hexane, Lot 58130	10 mL	MS-Otins-CS_00001	5 uL	Tributyltin	1 ug/mL
					MS-OtinsR-Sr_00001	5 uL	Tripentyltin	1 ug/mL
...MS-Otins-CS_00001	09/30/20	Restek, Lot A0130586			(Purchased Reagent)		Tributyltin	2000 ug/mL
...MS-OtinsR-Sr_00001	09/30/20	Restek, Lot A0130846			(Purchased Reagent)		Tripentyltin	2000 ug/mL
MS-Otins-Ca3_00003	02/12/20	10/07/19	Hexane, Lot 58130	4 mL	MS-Otins-CS-D_00004	800 uL	Dibutyltin	100 ug/L
							Monobutyltin	100 ug/L
							Tetra-n-butyltin	100 ug/L
							Tributyltin	100 ug/L
							Tripentyltin	100 ug/L
					MS-Otins-ISW_00002	80 uL	Tetra-n-propyl tin	100 ug/L
.MS-Otins-CS-D_00004	04/03/20	10/07/19	Hexane, Lot 58130	10 mL	MS-Otins-CSmx_00003	5 mL	Dibutyltin	0.5 ug/mL
							Monobutyltin	0.5 ug/mL
							Tetra-n-butyltin	0.5 ug/mL
							Tributyltin	0.5 ug/mL
							Tripentyltin	0.5 ug/mL
..MS-Otins-CSmx_00003	04/03/20	10/07/19	Hexane, Lot 58130	10 mL	MS-Otins-CS_00002	5 uL	Dibutyltin	1 ug/mL
							Monobutyltin	1 ug/mL
							Tetra-n-butyltin	1 ug/mL
							Tributyltin	1 ug/mL
					MS-OtinsR-Sr_00001	5 uL	Tripentyltin	1 ug/mL
...MS-Otins-CS_00002	08/31/22	Restek, Lot AO152198			(Purchased Reagent)		Dibutyltin	2000 ug/mL
							Monobutyltin	2000 ug/mL
							Tetra-n-butyltin	2000 ug/mL
							Tributyltin	2000 ug/mL
...MS-OtinsR-Sr_00001	09/30/20	Restek, Lot A0130846			(Purchased Reagent)		Tripentyltin	2000 ug/mL
.MS-Otins-ISW_00002	02/12/20	08/13/19	Hexane, Lot 58130	20 mL	MS-Otins-IS_00002	50 uL	Tetra-n-propyl tin	5 ug/mL
..MS-Otins-IS_00002	04/24/22	AccuStandard, Lot 219041552			(Purchased Reagent)		Tetra-n-propyl tin	2000 ug/mL
MS-Otins-Ca4_00004	02/12/20	10/07/19	Hexane, Lot 58130	4 mL	MS-Otins-CS-D_00004	1.6 mL	Dibutyltin	200 ug/L
							Monobutyltin	200 ug/L
							Tetra-n-butyltin	200 ug/L
							Tributyltin	200 ug/L
							Tripentyltin	200 ug/L
					MS-Otins-ISW_00002	80 uL	Tetra-n-propyl tin	100 ug/L
.MS-Otins-CS-D_00004	04/03/20	10/07/19	Hexane, Lot 58130	10 mL	MS-Otins-CSmx_00003	5 mL	Dibutyltin	0.5 ug/mL
							Monobutyltin	0.5 ug/mL
							Tetra-n-butyltin	0.5 ug/mL
							Tributyltin	0.5 ug/mL
							Tripentyltin	0.5 ug/mL
..MS-Otins-CSmx_00003	04/03/20	10/07/19	Hexane, Lot 58130	10 mL	MS-Otins-CS_00002	5 uL	Dibutyltin	1 ug/mL
							Monobutyltin	1 ug/mL
							Tetra-n-butyltin	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Tributyltin	1 ug/mL
					MS-OtinsR-Sr_00001	5 uL	Tripentyltin	1 ug/mL
...MS-Otins-CS_00002	08/31/22		Restek, Lot AO152198		(Purchased Reagent)		Dibutyltin	2000 ug/mL
							Monobutyltin	2000 ug/mL
							Tetra-n-butyltin	2000 ug/mL
							Tributyltin	2000 ug/mL
...MS-OtinsR-Sr_00001	09/30/20		Restek, Lot A0130846		(Purchased Reagent)		Tripentyltin	2000 ug/mL
.MS-Otins-ISW_00002	02/12/20	08/13/19	Hexane, Lot 58130	20 mL	MS-Otins-IS_00002	50 uL	Tetra-n-propyl tin	5 ug/mL
..MS-Otins-IS_00002	04/24/22		AccuStandard, Lot 219041552		(Purchased Reagent)		Tetra-n-propyl tin	2000 ug/mL
MS-Otins-Ca5_00003	02/12/20	10/07/19	Hexane, Lot 58130	4 mL	MS-Otins-CS-D_00004	3.2 mL	Dibutyltin	400 ug/L
							Monobutyltin	400 ug/L
							Tetra-n-butyltin	400 ug/L
							Tributyltin	400 ug/L
							Tripentyltin	400 ug/L
					MS-Otins-ISW_00002	80 uL	Tetra-n-propyl tin	100 ug/L
.MS-Otins-CS-D_00004	04/03/20	10/07/19	Hexane, Lot 58130	10 mL	MS-Otins-CSmx_00003	5 mL	Dibutyltin	0.5 ug/mL
							Monobutyltin	0.5 ug/mL
							Tetra-n-butyltin	0.5 ug/mL
							Tributyltin	0.5 ug/mL
							Tripentyltin	0.5 ug/mL
..MS-Otins-CSmx_00003	04/03/20	10/07/19	Hexane, Lot 58130	10 mL	MS-Otins-CS_00002	5 uL	Dibutyltin	1 ug/mL
							Monobutyltin	1 ug/mL
							Tetra-n-butyltin	1 ug/mL
							Tributyltin	1 ug/mL
					MS-OtinsR-Sr_00001	5 uL	Tripentyltin	1 ug/mL
...MS-Otins-CS_00002	08/31/22		Restek, Lot AO152198		(Purchased Reagent)		Dibutyltin	2000 ug/mL
							Monobutyltin	2000 ug/mL
							Tetra-n-butyltin	2000 ug/mL
							Tributyltin	2000 ug/mL
...MS-OtinsR-Sr_00001	09/30/20		Restek, Lot A0130846		(Purchased Reagent)		Tripentyltin	2000 ug/mL
.MS-Otins-ISW_00002	02/12/20	08/13/19	Hexane, Lot 58130	20 mL	MS-Otins-IS_00002	50 uL	Tetra-n-propyl tin	5 ug/mL
..MS-Otins-IS_00002	04/24/22		AccuStandard, Lot 219041552		(Purchased Reagent)		Tetra-n-propyl tin	2000 ug/mL
MS-Otins-ICV_00002	02/12/20	08/13/19	Hexane, Lot 58130	4 mL	MS-Otins-ISW_00002	80 uL	Tetra-n-propyl tin	100 ug/L
.MS-Otins-ISW_00002	02/12/20	08/13/19	Hexane, Lot 58130	20 mL	MS-Otins-IS_00002	50 uL	Tetra-n-propyl tin	5 ug/mL
..MS-Otins-IS_00002	04/24/22		AccuStandard, Lot 219041552		(Purchased Reagent)		Tetra-n-propyl tin	2000 ug/mL
MS-Otins-ICV_00002	02/12/20	08/13/19	Hexane, Lot 58130	4 mL	MS-OtinsICV-D_00002	800 uL	Tributyltin	100 ug/L
							Tripentyltin	100 ug/L
.MS-OtinsICV-D_00002	02/12/20	08/13/19	Hexane, Lot 58130	10 mL	MS-OtinsICVmx_00002	5 mL	Tributyltin	500 ug/L
							Tripentyltin	500 ug/L
..MS-OtinsICVmx_00002	02/12/20	08/13/19	Hexane, Lot 58130	10 mL	MS-Otins-SpS_00001	5 uL	Tributyltin	1000 ug/L
					MS-Otins-Sr_00001	5 uL	Tripentyltin	1000 ug/L
...MS-Otins-SpS_00001	12/12/21		AccuStandard, Lot 21811474		(Purchased Reagent)		Tributyltin	2000 ug/mL
...MS-Otins-Sr_00001	02/12/20		AccuStandard, Lot 216121198-01		(Purchased Reagent)		Tripentyltin	2000 ug/mL
MS-Otins-ISW_00002	02/12/20	08/13/19	Hexane, Lot 58130	20 mL	MS-Otins-IS_00002	50 uL	Tetra-n-propyl tin	5 ug/mL
.MS-Otins-IS_00002	04/24/22		AccuStandard, Lot 219041552		(Purchased Reagent)		Tetra-n-propyl tin	2000 ug/mL
MS-Otins-SpW_00003	04/07/20	10/07/19	Hexane, Lot 58130	200 mL	MS-Otins-SpS_00001	0.1 mL	Dibutyltin	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Monobutyltin	1 ug/mL
							Tetra-n-butyltin	1 ug/mL
							Tributyltin	1 ug/mL
.MS-Otins-SpS_00001	12/12/21	AccuStandard, Lot 21811474			(Purchased Reagent)		Dibutyltin	2000 ug/mL
							Monobutyltin	2000 ug/mL
							Tetra-n-butyltin	2000 ug/mL
							Tributyltin	2000 ug/mL
MS-Otins-SrW_00004	03/01/20	09/30/19	Hexane, Lot 58130	400 mL	MS-Otins-Sr_00002	0.2 mL	Tripentyltin	1 ug/mL
.MS-Otins-Sr_00002	09/20/20	AccuStandard, Lot 216121198-01			(Purchased Reagent)		Tripentyltin	2000 ug/mL
MS-Tune-W_00001	03/29/20	02/18/19	MeCl2, Lot 58320	50 mL	MS-Tune-DFTPP_00001	2.5 mL	DFTPP	50 ug/mL
.MS-Tune-DFTPP_00001	09/30/21	Restek, Lot A0141339			(Purchased Reagent)		DFTPP	1000 ug/mL

Reagent

MS-Otins-CS_00001

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

Certificate of Analysis

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.

S08-012-21_22
8070968
8070969

Catalog No. : 31472 **Lot No.:** A0130586

Description : Butyltin Chlorides Calibration Mixture

Butyltin Chlorides Cal Std 2000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2020 **Storage:** 10°C or colder

Elution Order	Compound	CAS #	Percent Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	n-Butyltin trichloride	1118-46-3	99%	2,012.0 µg/mL	+/- 11.9507 µg/mL
2	Di-n-butyltin dichloride	683-18-1	98%	2,016.8 µg/mL	+/- 11.9794 µg/mL
3	Tri-n-butyltin chloride	1461-22-9	99%	2,010.0 µg/mL	+/- 11.9388 µg/mL
4	Tetra-n-butyltin	1461-25-2	99%	2,020.0 µg/mL	+/- 11.9982 µg/mL
Solvent:	Methylene chloride	75-09-2	99%		

Specific Reference Material Notes:

Derivatization in the sample preparation of this standard is required for internal acceptance testing as a result the acceptance criteria is ±15%.

General Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the RM 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.

Uncertainty Value Notes:

- Uncertainties are determined using data from balances and glassware, raw material purity, and, when significant, equipment tolerances or calibration results.

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:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

RESTEK

Safety Data Sheet

Revision Date: 12/09/16
www.restek.com

1. IDENTIFICATION

Catalog Number / Product Name:	**31472 / Butyltin Chlorides Calibration Mixture**
Company:	Restek Corporation
Address:	110 Benner Circle Bellefonte, Pa. 16823
Phone#:	814-353-1300
Fax#:	814-353-1309
Emergency#:	800-424-9300 (CHEMTREC) 703-527-3887 (Outside the US)
Email:	www.restek.com
Revision Number:	9
Intended use:	For Laboratory use only

2. HAZARD(S)IDENTIFICATION

Emergency Overview:

GHS Hazard Symbols:

GHS Classification:	Carcinogenicity Category 2
GHS Signal Word:	Warning
GHS Hazard:	Suspected of causing cancer.
GHS Precautions:	
Safety Precautions:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection.
First Aid Measures:	IF exposed or concerned: Get medical advice/attention.
Storage:	Store locked up.
Disposal:	Dispose of contents/container according to section 13 of the SDS.
Single Exposure Target Organs:	No data available.
Repeated Exposure Target Organs:	No data available.

3. COMPOSITION / INFORMATION ON INGREDIENT

Chemical Name	CAS #	EINEC #	% Composition
Dichloromethane	75-09-2	200-838-9	99.200000
butyltin trichloride	1118-46-3	214-263-6	0.200000
dibutyltin dichloride	683-18-1	211-670-0	0.200000
tributyltin chloride	1461-22-9	215-958-7	0.200000

	product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms.
Eye Protection:	Wear chemically resistant safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material. Do not wear contact lenses. Have an eye wash station available.
Skin Protection:	Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
Medical Conditions Aggravated By Exposure:	Eye disease Skin disease including eczema and sensitization Respiratory disease including asthma and bronchitis

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance, color:	Colorless
Odor:	Strong
Physical State:	Liquid
pH:	No data available.
Vapor Pressure:	No data available.
Vapor Density:	2.93 (air = 1)
Boiling Point:	No data available.
Melting Point:	-96.7 °C
Flash Point:	No data available.
Upper Flammable/Explosive Limit, % in air:	No data available.
Lower Flammable/Explosive Limit, % in air:	No data available.
Autoignition Temperature:	556 deg C
Decomposition Temperature:	No data available.
Specific Gravity:	1.3254 - 1.3258 g/cm3 at 20 °C
Evaporation Rate:	No data available.
Odor Threshold:	ND
Solubility:	Moderate; 50-99%
Partition Coefficient: n-octanol in water:	No data available.
VOC % by weight:	0
Molecular Weight:	No data available.

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	No data available.Contamination High temperatures
Materials to Avoid / Chemical Incompatiability:	Strong oxidizing agents Caustics (bases)
Hazardous Decomposition Products:	Carbon dioxide Carbon monoxide

11. TOXICOLOGICAL INFORMATION

Routes of Entry:	Inhalation Absorption Ingestion Skin contact Eye contact
Target Organs Potentially Affected By Exposure:	Skin, Cardiovascular System, Eyes, Liver
Chemical Interactions That Change Toxicity:	None Known

Immediate (Acute) Health Effects by Route of Exposure:

Inhalation Irritation:	Can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.
Inhalation Toxicity:	Harmful! Can cause systemic damage (see "Target Organs)Inhalation may cause severe central nervous system depression (including unconsciousness).
Skin Contact:	Contact causes severe skin irritation and possible burns.
Skin Absorption:	Harmful if absorbed through the skin. May cause severe irritation and systemic damage.
Eye Contact:	Contact with the eyes may cause moderate to severe eye injury. Eye contact may result in tearing and reddening, but not likely to permanently injure eye tissue. Temporary vision impairment (cloudy or blurred vision) is possible.
Ingestion Irritation:	Irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea.
Ingestion Toxicity:	Harmful if swallowed. May cause systemic poisoning.

Long-Term (Chronic) Health Effects:

DOT Proper Shipping Name: Dichloromethane
UN Number: UN1593
Hazard Class: 6.1
Packing Group: III

International:
IATA Proper Shipping Name: Dichloromethane
UN Number: UN1593
Hazard Class: 6.1
Packing Group: III

Marine Pollutant: No

Chemical Name	CAS#	Marine Pollutant	Severe Marine Pollutant
No data available.			

15. REGULATORY INFORMATION

United States:

Chemical Name	CAS#	CERCLA	SARA 313	SARA EHS 313	TSCA
Dichloromethane	75-09-2	X	X	-	X
butyltin trichloride	1118-46-3	-	-	-	X
dibutyltin dichloride	683-18-1	-	-	-	X
tributyltin chloride	1461-22-9	-	-	-	X
tetrabutyltin	1461-25-2	-	-	-	X

The following chemicals are listed on CA Prop 65:

Chemical Name	CAS #	Regulation
Dichloromethane Dichloromethane (Methylene chloride)	75-09-2	Prop 65 Cancer

State Right To Know Listing:

Chemical Name	CAS#	New Jersey	Massachusetts	Pennsylvania	California
Dichloromethane	75-09-2	X	X	X	X
butyltin trichloride	1118-46-3	-	-	-	-
dibutyltin dichloride	683-18-1	-	X	-	-
tributyltin chloride	1461-22-9	-	-	-	-
tetrabutyltin	1461-25-2	-	X	-	-

16. OTHER INFORMATION

Prior Version Date: 07/10/15
Other Information: Any changes to the SDS compared to previous versions are marked by a vertical line in front of the concerned paragraph.
References: No data available.
Disclaimer: Restek Corporation provides the descriptions, data and information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. It is provided for your guidance only. Because many factors may affect processing or application/use, Restek Corporation recommends you perform an assessment to determine the suitability of a product for your particular purpose prior to use. No warranties of any kind, either expressed or implied, including fitness for a particular purpose, are made regarding prodcuts described, data or information set forth. In no case shall the descriptions, information, or data provided be considered a part of our terms and conditions of sale. Further, the descriptions, data and information furnished hereunder are given gratis. No obligation or liability for the description, data and information given are assumed. All such being given and accepted at your risk.

Reagent

MS-Otins-SpS_00001

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

Catalog No: OMT-001
Description: Organometallic Butyltin Chloride
Lot: 218111474
Solvent: Dichloromethane
Hazards: *Refer to SDS for complete safety information*

Signal Word: Warning

Date Certified: Dec 12, 2018
Expiration: Dec 12, 2021
Sample Size: 1 mL
Components: 4
Storage Condition: Refrig (0-5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: No

Included on ISO 17034 Scope of Accreditation: No

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Butyltin trichloride	1118-46-3	100.0	2006	2006
Dibutyltin dichloride	683-18-1	96.0	2092*	2008
Tetrabutyltin	1461-25-2	93.0	2161*	2010
Tributyltin chloride	1461-22-9	96.4	2096*	2021

SOS-35-13
L -14

* Weight compensated to 100% purity.

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

[2] 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.

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

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 5/18

1. **Quality Standards:**

   ISO 17034 – General Requirements for the Competence of Reference Material Producers ANAB Certificate Number AR-1463

   ISO/IEC 17025 – General Requirements for the Competence of Testing And Calibration Laboratories ANAB Certificate Number AT-1339

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations Certificate Number 3774

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 11.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

Reagent

MS-Otins-Sr_00001

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

Catalog No: OMT-004
Description: Tripentyltin Chloride Surrogate Standard
Lot: 216121198-01
Solvent: Dichloromethane
Hazards: *Refer to SDS for complete safety information*

Signal Word: Warning

Date Certified: Jan 12, 2018
Expiration: Feb 12, 2020
Sample Size: 1 mL
Components: 1
Storage Condition: Refrig (0-5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: No

Included on ISO Guide 34 Scope of Accreditation: No

Component	CAS #	Purity % (MFG)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Tripentyltin chloride	3342-67-4	95.0	2134*	2027

S008-18-20-24

80900093 / 80900094

* Weight compensated to 100% purity.

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] All weights are traceable through NIST, Test No. 822-275872-11

[2] 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.

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

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 5/18

Reagent

MS-OtinsR-Sr_00001

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

Certificate of Analysis

S007-079-23_25

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. : 31477 **Lot No.:** A0130846

Description : Tripentyltin Chloride Mixture

Tripentyltin Chloride Std 2000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2020 **Storage:** 10°C or colder

Elution Order	Compound	CAS #	Percent Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.: K=2)
1	Tripentyltin chloride	3342-67-4	99%	2,015.0 µg/mL	+/- 20.2986 µg/mL
Solvent:	Methylene chloride	75-09-2	99%		

Specific Reference Material Notes:

Derivatization in the sample preparation of this standard is required for internal acceptance testing as a result the acceptance criteria is ±15%.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

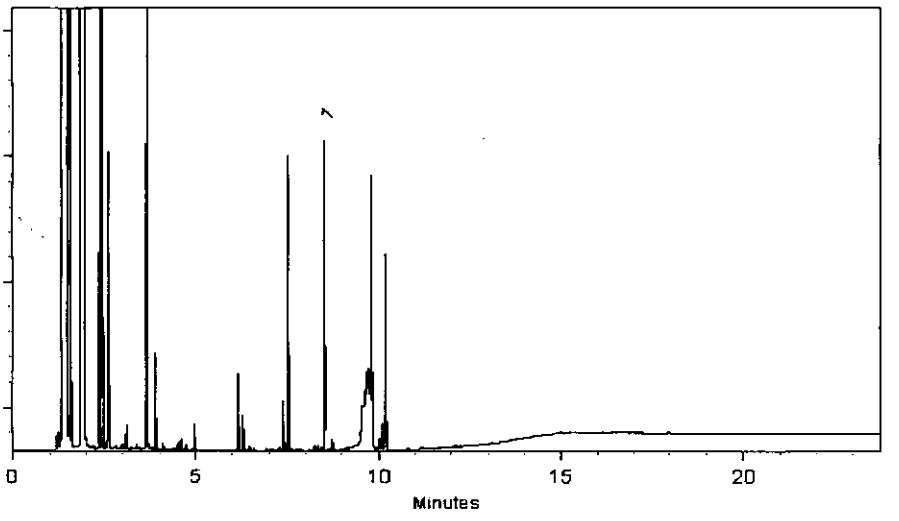
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



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.

Brandon Reish - Mix Technician

Date Mixed: 18-Sep-2017 **Balance:** B345965662

Amanda Miller - Operations Tech-ARM QC

Date Passed: 25-Sep-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the RM 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.

Uncertainty Value Notes:

- Uncertainties are determined using data from balances and glassware, raw material purity, and, when significant, equipment tolerances or calibration results.

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:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MS-Tune-DFTPP_00001

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

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. : 31615 **Lot No.:** A0141339

Description : GC/MS Tuning Mixture

GC/MS Tuning Mixture 1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2021 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin.

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Pentachlorophenol	1,002.4 µg/mL	+/- 5.8826 µg/mL	Gravimetric
	CAS # 87-86-5 (Lot 170717KJA)		+/- 45.6585 µg/mL	Unstressed
	Purity 99%		+/- 65.9247 µg/mL	Stressed
2	DFTPP (Decafluorotriphenylphosphine)	1,000.7 µg/mL	+/- 5.8724 µg/mL	Gravimetric
	CAS # 5074-71-5 (Lot Q15B005)		+/- 45.5789 µg/mL	Unstressed
	Purity 97%		+/- 65.8098 µg/mL	Stressed
3	Benzidine	1,006.0 µg/mL	+/- 5.9038 µg/mL	Gravimetric
	CAS # 92-87-5 (Lot 180810JACG)		+/- 45.8225 µg/mL	Unstressed
	Purity 99%		+/- 66.1615 µg/mL	Stressed
4	4,4'-DDT	1,001.2 µg/mL	+/- 5.8756 µg/mL	Gravimetric
	CAS # 50-29-3 (Lot S37912V)		+/- 45.6039 µg/mL	Unstressed
	Purity 99%		+/- 65.8458 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

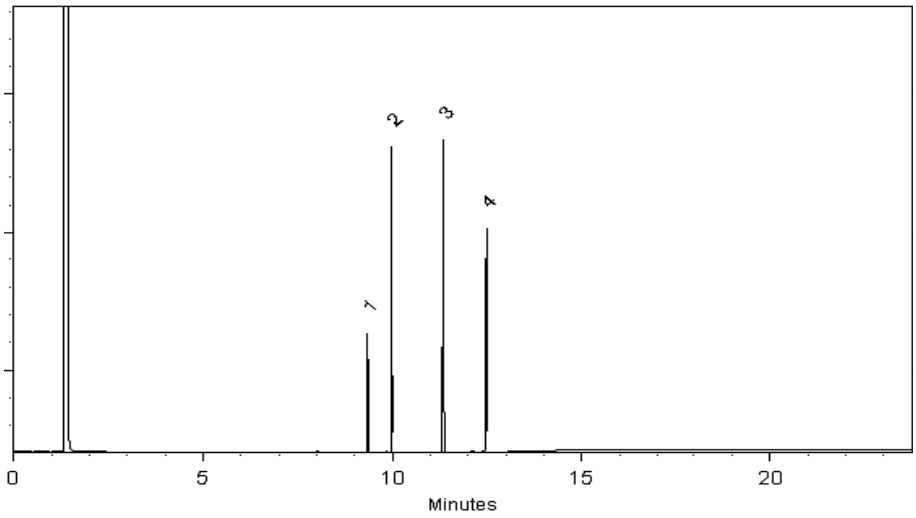
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



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.

Dustin J Lidgett
Dustin Lidgett - Mix Technician

Date Mixed: 06-Sep-2018 **Balance:** 1128360905

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 12-Sep-2018

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 combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

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

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules 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 ampules. 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.

Method Organotins (GC/MS SIM)

Organotins (GC/MS SIM) by Method Organotins

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Matrix: Solid Level: Low

GC Column (1): AAA Agilent ID: 0.25(mm)

Client Sample ID	Lab Sample ID	TPTT #
A9J0277-01	570-9778-1	54
A9J0277-03	570-9778-2	53
A9J0277-04	570-9778-3	56
	MB 570-25450/1-A	79
	LCS 570-25450/2-A	71
	570-9781-A-1-B MS	66
	570-9781-A-1-C MSD	63

	QC LIMITS
TPTT = Tripentyltin	27-135

Column to be used to flag recovery values

FORM II Organotins SIM

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): AAA Agilent ID: 0.25(mm)

Client Sample ID	Lab Sample ID	TPTT #
A9J0277-05	570-9778-4	44
	MB 570-26040/1-A	47
	LCS 570-26040/2-A	53
	LCSD 570-26040/3-A	52

	QC LIMITS
TPTT = Tripentyltin	19-121

Column to be used to flag recovery values

FORM II Organotins SIM

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: Y16OCT04.D

Lab ID: LCS 570-25450/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
Tributyltin	100	79.48	79	33-147	

Column to be used to flag recovery and RPD values

FORM III Organotins SIM

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Matrix: Water Level: Low Lab File ID: Y25OCT21.D

Lab ID: LCS 570-26040/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
Tributyltin	200	116.5	58	50-120	

Column to be used to flag recovery and RPD values

FORM III Organotins SIM

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Matrix: Water Level: Low Lab File ID: Y16OCT16.D

Lab ID: LCSD 570-26040/3-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCSD CONCENTRATION (ng/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Tributyltin	200	130.9	65	12	20	50-120	

Column to be used to flag recovery and RPD values

FORM III Organotins SIM

FORM III
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: Y16OCT05.D

Lab ID: 570-9781-A-1-B MS Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
Tributyltin	116	ND	84.89	73	34-142	

Column to be used to flag recovery and RPD values

FORM III Organotins SIM

FORM III
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: Y16OCT06.D

Lab ID: 570-9781-A-1-C MSD Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Tributyltin	113	84.72	75	0	50	34-142	

Column to be used to flag recovery and RPD values

FORM III Organotins SIM

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Lab File ID: Y16OCT03.D Lab Sample ID: MB 570-25450/1-A

Matrix: Solid Date Extracted: 10/11/2019 15:57

Instrument ID: GCMSY Date Analyzed: 10/16/2019 14:09

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 570-25450/2-A	Y16OCT04.D	10/16/2019 14:27
	570-9781-A-1-B MS	Y16OCT05.D	10/16/2019 14:45
	570-9781-A-1-C MSD	Y16OCT06.D	10/16/2019 15:04
A9J0277-01	570-9778-1	Y16OCT07.D	10/16/2019 15:21
A9J0277-03	570-9778-2	Y16OCT08.D	10/16/2019 15:39
A9J0277-04	570-9778-3	Y16OCT09.D	10/16/2019 15:57

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Lab File ID: Y16OCT14.D Lab Sample ID: MB 570-26040/1-A

Matrix: Water Date Extracted: 10/15/2019 11:43

Instrument ID: GCMSY Date Analyzed: 10/16/2019 17:28

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCSD 570-26040/3-A	Y16OCT16.D	10/16/2019 19:13
A9J0277-05	570-9778-4	Y16OCT23.D	10/16/2019 21:18
	LCS 570-26040/2-A	Y25OCT21.D	10/25/2019 14:50

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Lab File ID: Y07OCT01.D DFTPP Injection Date: 10/07/2019

Instrument ID: GCMSY DFTPP Injection Time: 10:07

Analysis Batch No.: 24154

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	39.2	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	36.0	
70	Less than 2.0 % of mass 69	0.3	(0.7) 1
127	40.0 - 60.0 % of mass 198	48.3	
197	Less than 1.0 % of mass 198	0.1	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	7.3	
275	10.0 - 30.0 % of mass 198	26.8	
365	Greater than 1.0 % of mass 198	2.9	
441	Present but less than mass 443	13.0	(77.8) 3
442	Greater than 40.0 % of mass 198	82.8	
443	17.0 - 23.0 % of mass 442	16.7	(20.1) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 570-24154/2	Y07OCT02.D	10/07/2019	10:23
	IC 570-24154/3	Y07OCT03.D	10/07/2019	10:41
	ICIS 570-24154/4	Y07OCT04.D	10/07/2019	10:59
	IC 570-24154/5	Y07OCT05.D	10/07/2019	11:16
	IC 570-24154/6	Y07OCT06.D	10/07/2019	11:34
	ICV 570-24154/7	Y07OCT08.D	10/07/2019	14:45

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Lab File ID: Y16OCT01.D DFTPP Injection Date: 10/16/2019

Instrument ID: GCMSY DFTPP Injection Time: 12:57

Analysis Batch No.: 26370

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	41.7	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	38.2	
70	Less than 2.0 % of mass 69	0.2	(0.5) 1
127	40.0 - 60.0 % of mass 198	49.1	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	7.6	
275	10.0 - 30.0 % of mass 198	27.0	
365	Greater than 1.0 % of mass 198	2.8	
441	Present but less than mass 443	14.6	(75.5) 3
442	Greater than 40.0 % of mass 198	95.1	
443	17.0 - 23.0 % of mass 442	19.4	(20.4) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 570-26370/2	Y16OCT02.D	10/16/2019	13:26
	MB 570-25450/1-A	Y16OCT03.D	10/16/2019	14:09
	LCS 570-25450/2-A	Y16OCT04.D	10/16/2019	14:27
	570-9781-A-1-B MS	Y16OCT05.D	10/16/2019	14:45
	570-9781-A-1-C MSD	Y16OCT06.D	10/16/2019	15:04
A9J0277-01	570-9778-1	Y16OCT07.D	10/16/2019	15:21
A9J0277-03	570-9778-2	Y16OCT08.D	10/16/2019	15:39
A9J0277-04	570-9778-3	Y16OCT09.D	10/16/2019	15:57
	MB 570-26040/1-A	Y16OCT14.D	10/16/2019	17:28
	LCSD 570-26040/3-A	Y16OCT16.D	10/16/2019	19:13
A9J0277-05	570-9778-4	Y16OCT23.D	10/16/2019	21:18

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Lab File ID: Y25OCT02.D DFTPP Injection Date: 10/25/2019

Instrument ID: GCMSY DFTPP Injection Time: 09:12

Analysis Batch No.: 28530

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	34.5	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	41.0	
70	Less than 2.0 % of mass 69	0.2	(0.4) 1
127	40.0 - 60.0 % of mass 198	48.7	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	8.1	
275	10.0 - 30.0 % of mass 198	29.5	
365	Greater than 1.0 % of mass 198	2.9	
441	Present but less than mass 443	14.1	(81.7) 3
442	Greater than 40.0 % of mass 198	79.9	
443	17.0 - 23.0 % of mass 442	17.3	(21.7) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 570-28530/2	Y25OCT09.D	10/25/2019	10:53
	IC 570-28530/3	Y25OCT10.D	10/25/2019	11:10
	ICIS 570-28530/4	Y25OCT11.D	10/25/2019	11:28
	IC 570-28530/5	Y25OCT12.D	10/25/2019	11:47
	IC 570-28530/6	Y25OCT13.D	10/25/2019	12:05
	ICV 570-28530/7	Y25OCT14.D	10/25/2019	12:35

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Lab File ID: Y25OCT15.D DFTPP Injection Date: 10/25/2019

Instrument ID: GCMSY DFTPP Injection Time: 12:59

Analysis Batch No.: 28601

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	33.0	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	39.0	
70	Less than 2.0 % of mass 69	0.1	(0.1) 1
127	40.0 - 60.0 % of mass 198	48.3	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	8.2	
275	10.0 - 30.0 % of mass 198	29.7	
365	Greater than 1.0 % of mass 198	2.9	
441	Present but less than mass 443	14.4	(80.0) 3
442	Greater than 40.0 % of mass 198	81.6	
443	17.0 - 23.0 % of mass 442	18.0	(22.0) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 570-28601/2	Y25OCT16.D	10/25/2019	13:19
	LCS 570-26040/2-A	Y25OCT21.D	10/25/2019	14:50

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Sample No.: ICIS 570-24154/4 Date Analyzed: 10/07/2019 10:59

Instrument ID: GCMSY GC Column: AAA Agilent J&W ID: 0.25(mm)

Lab File ID (Standard): Y07OCT04.D Heated Purge: (Y/N) N

Calibration ID: 4148

		TPT					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		11196	6.24				
UPPER LIMIT		22392	6.74				
LOWER LIMIT		5598	5.74				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 570-24154/7		12408	6.25				

TPT = Tetra-n-propyl tin

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII ORGANOTINS SIM

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Sample No.: CCVIS 570-26370/2 Date Analyzed: 10/16/2019 13:26

Instrument ID: GCMSY GC Column: AAA Agilent J&W ID: 0.25(mm)

Lab File ID (Standard): Y16OCT02.D Heated Purge: (Y/N) N

Calibration ID: 4148

		TPT					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		13763	6.24				
UPPER LIMIT		27526	6.74				
LOWER LIMIT		6882	5.74				
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 570-25450/1-A		11559	6.23				
LCS 570-25450/2-A		11374	6.23				
570-9781-A-1-B MS		10940	6.23				
570-9781-A-1-C MSD		10895	6.23				
570-9778-1	A9J0277-01	11034	6.23				
570-9778-2	A9J0277-03	10848	6.23				
570-9778-3	A9J0277-04	10601	6.23				
MB 570-26040/1-A		9872	6.24				
LCSD 570-26040/3-A		10601	6.24				
570-9778-4	A9J0277-05	10086	6.24				

TPT = Tetra-n-propyl tin

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII ORGANOTINS SIM

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Sample No.: ICIS 570-28530/4 Date Analyzed: 10/25/2019 11:28

Instrument ID: GCMSY GC Column: AAA Agilent J&W ID: 0.25(mm)

Lab File ID (Standard): Y25OCT11.D Heated Purge: (Y/N) N

Calibration ID: 4543

		TPT					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		20139	6.26				
UPPER LIMIT		40278	6.76				
LOWER LIMIT		10070	5.76				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 570-28530/7		23727	6.27				

TPT = Tetra-n-propyl tin

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII ORGANOTINS SIM

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Sample No.: CCVIS 570-28601/2 Date Analyzed: 10/25/2019 13:19

Instrument ID: GCMSY GC Column: AAA Agilent J&W ID: 0.25(mm)

Lab File ID (Standard): Y25OCT16.D Heated Purge: (Y/N) N

Calibration ID: 4543

		TPT					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		21078	6.27				
UPPER LIMIT		42156	6.77				
LOWER LIMIT		10539	5.77				
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 570-26040/2-A		16197	6.26				

TPT = Tetra-n-propyl tin

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII ORGANOTINS SIM

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Calscience | Job No.: 570-9778-1

SDG No.:

Client Sample ID: A9J0277-01 | Lab Sample ID: 570-9778-1

Matrix: Sediment | Lab File ID: Y16OCT07.D

Analysis Method: Organotins SIM | Date Collected: 10/07/2019 18:40

Extract. Method: Organotin Prep | Date Extracted: 10/11/2019 15:57

Sample wt/vol: 10.3(g) | Date Analyzed: 10/16/2019 15:21

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: 28.6 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 26370 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
688-73-3	Tributyltin	ND		4.1	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00386	Tripentyltin	54		27-135

Eurofins Calscience LLC
Target Compound Quantitation Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT07.D				
Lims ID:	570-9778-A-1-A				
Client ID:	A9J0277-01				
Sample Type:	Client				
Inject. Date:	16-Oct-2019 15:21:30	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	570-9778-a-1-a				
Misc. Info.:	570-0007351-007				
Operator ID:	ulli	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	18-Oct-2019 17:32:02	Calib Date:	07-Oct-2019 11:34:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1012				
First Level Reviewer: nguyenv		Date:	16-Oct-2019 16:41:50		

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
*	1 Tetra-n-propyl tin	205	6.234	6.241	-0.007	100	11034	100.0	
	2 Tetra-n-butyltin	291		7.771				ND	U
	3 Tributyltin	305	8.145	8.145	0.000	54	100	1.74	
	4 Dibutyltin	319	8.507	8.507	0.000	78	95	2.40	
	5 Monobutyltin	319		8.849				ND	U
$	6 Tripentyltin	333	9.172	9.172	0.000	98	5919	108.2	

QC Flag Legend

Review Flags
U - Marked Undetected

Reagents:

MS-Otins-ISW_00002 Amount Added: 0.01 Units: mL Run Reagent

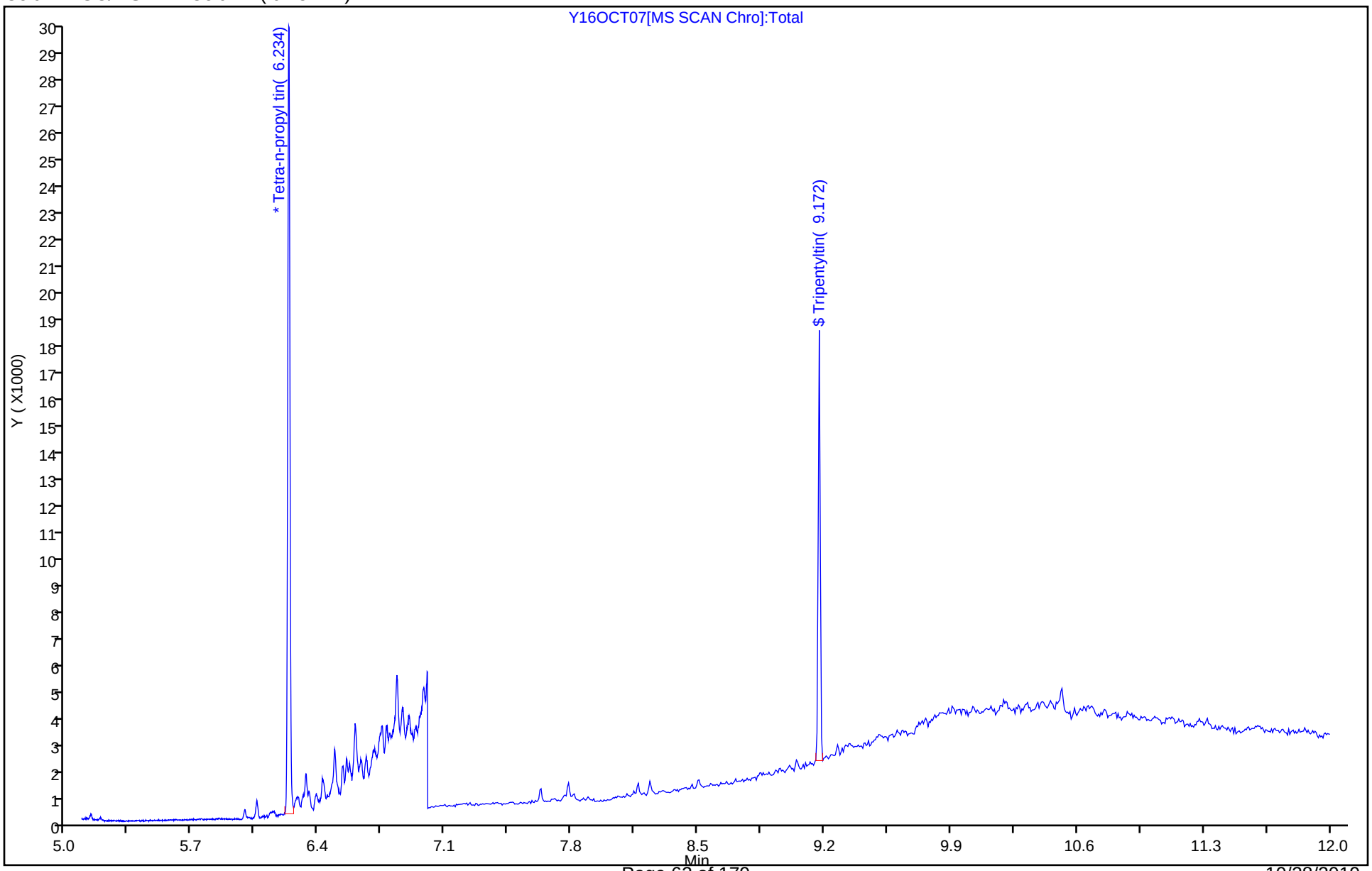
Report Date: 18-Oct-2019 17:32:08 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT07.D

Injection Date:	16-Oct-2019 15:21:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	570-9778-A-1-A	Lab Sample ID:	570-9778-1	Worklist Smp#:	7
Client ID:	A9J0277-01				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Recovery Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT07.D				
Lims ID:	570-9778-A-1-A				
Client ID:	A9J0277-01				
Sample Type:	Client				
Inject. Date:	16-Oct-2019 15:21:30	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	570-9778-a-1-a				
Misc. Info.:	570-0007351-007				
Operator ID:	ulli	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	18-Oct-2019 17:32:02	Calib Date:	07-Oct-2019 11:34:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1012				
First Level Reviewer: nguyenv		Date:	16-Oct-2019 16:41:50		

Compound	Amount Added	Amount Recovered	% Rec.
$ 6 Tripentyltin	200.0	108.2	54.10

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Calscience | Job No.: 570-9778-1

SDG No.:

Client Sample ID: A9J0277-03 | Lab Sample ID: 570-9778-2

Matrix: Sediment | Lab File ID: Y16OCT08.D

Analysis Method: Organotins SIM | Date Collected: 10/07/2019 18:57

Extract. Method: Organotin Prep | Date Extracted: 10/11/2019 15:57

Sample wt/vol: 10.1(g) | Date Analyzed: 10/16/2019 15:39

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: 27.7 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 26370 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
688-73-3	Tributyltin	ND		4.1	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00386	Tripentyltin	53		27-135

Eurofins Calscience LLC
Target Compound Quantitation Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT08.D				
Lims ID:	570-9778-A-2-A				
Client ID:	A9J0277-03				
Sample Type:	Client				
Inject. Date:	16-Oct-2019 15:39:30	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	570-9778-a-2-a				
Misc. Info.:	570-0007351-008				
Operator ID:	ulli	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	18-Oct-2019 17:32:02	Calib Date:	07-Oct-2019 11:34:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1012				
First Level Reviewer: nguyenv		Date:	16-Oct-2019 16:41:57		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Tetra-n-propyl tin	205	6.234	6.241	-0.007	99	10848	100.0	
3 Tributyltin	305		8.145				ND	
$ 6 Tripentyltin	333	9.172	9.172	0.000	98	5649	105.0	

Reagents:

MS-Otins-ISW_00002 Amount Added: 0.01 Units: mL Run Reagent

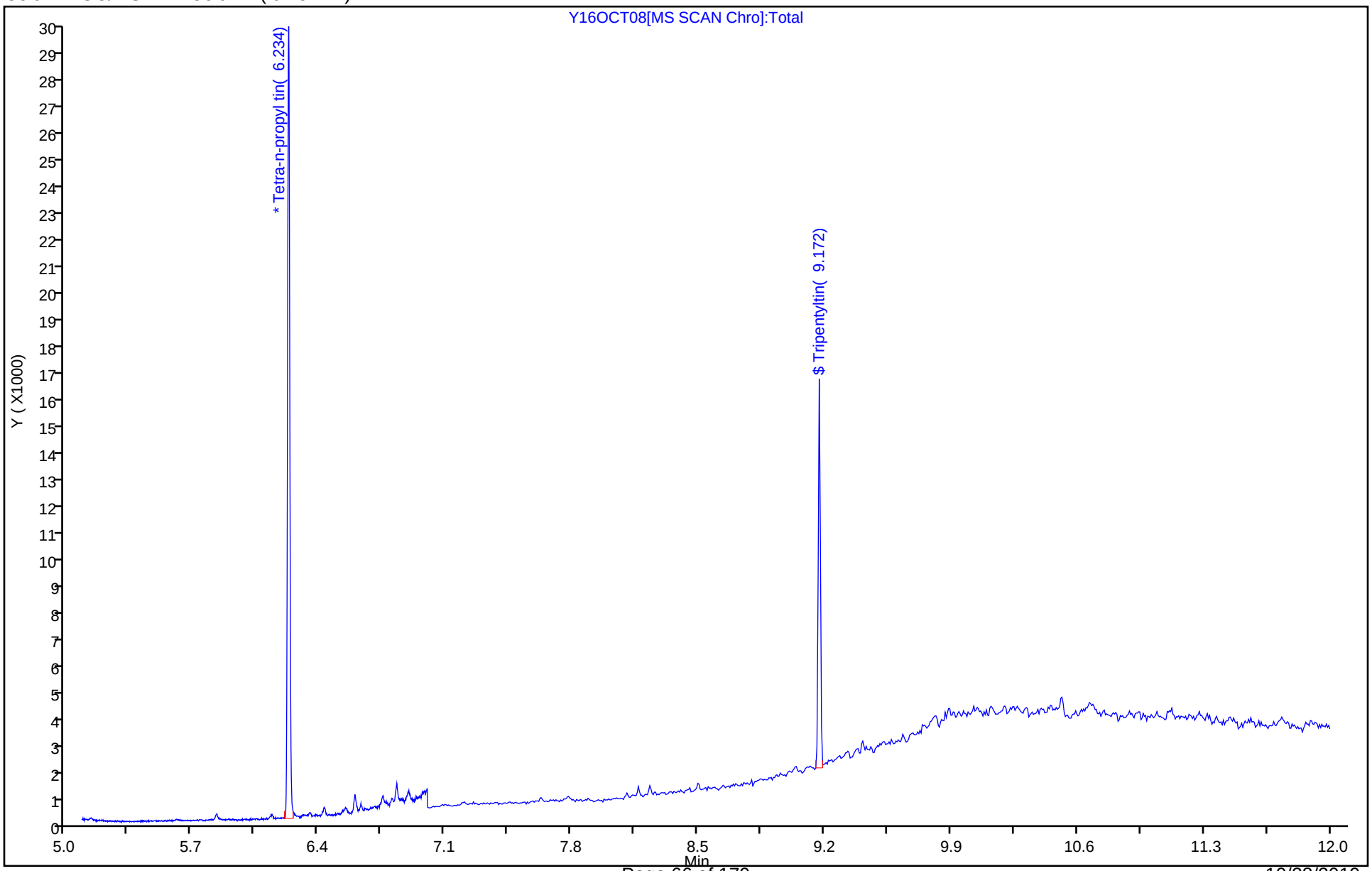
Report Date: 18-Oct-2019 17:32:09 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT08.D

Injection Date:	16-Oct-2019 15:39:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	570-9778-A-2-A	Lab Sample ID:	570-9778-2	Worklist Smp#:	8
Client ID:	A9J0277-03				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Recovery Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT08.D				
Lims ID:	570-9778-A-2-A				
Client ID:	A9J0277-03				
Sample Type:	Client				
Inject. Date:	16-Oct-2019 15:39:30	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	570-9778-a-2-a				
Misc. Info.:	570-0007351-008				
Operator ID:	ulli	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	18-Oct-2019 17:32:02	Calib Date:	07-Oct-2019 11:34:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1012				

First Level Reviewer: nguyenv Date: 16-Oct-2019 16:41:57

Compound	Amount Added	Amount Recovered	% Rec.
$ 6 Tripentyltin	200.0	105.0	52.52

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Calscience | Job No.: 570-9778-1

SDG No.:

Client Sample ID: A9J0277-04 | Lab Sample ID: 570-9778-3

Matrix: Sediment | Lab File ID: Y16OCT09.D

Analysis Method: Organotins SIM | Date Collected: 10/07/2019 19:05

Extract. Method: Organotin Prep | Date Extracted: 10/11/2019 15:57

Sample wt/vol: 10.3(g) | Date Analyzed: 10/16/2019 15:57

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: 26.5 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 26370 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
688-73-3	Tributyltin	ND		4.0	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00386	Tripentyltin	56		27-135

Eurofins Calscience LLC
Target Compound Quantitation Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT09.D				
Lims ID:	570-9778-A-3-A				
Client ID:	A9J0277-04				
Sample Type:	Client				
Inject. Date:	16-Oct-2019 15:57:30	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	570-9778-a-3-a				
Misc. Info.:	570-0007351-009				
Operator ID:	ulli	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	18-Oct-2019 17:32:02	Calib Date:	07-Oct-2019 11:34:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1012				
First Level Reviewer: nguyenv		Date:	16-Oct-2019 16:42:01		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Tetra-n-propyl tin	205	6.234	6.241	-0.007	100	10601	100.0	
3 Tributyltin	305		8.145				ND	
$ 6 Tripentyltin	333	9.172	9.172	0.000	99	5910	112.4	

Reagents:

MS-Otins-ISW_00002 Amount Added: 0.01 Units: mL Run Reagent

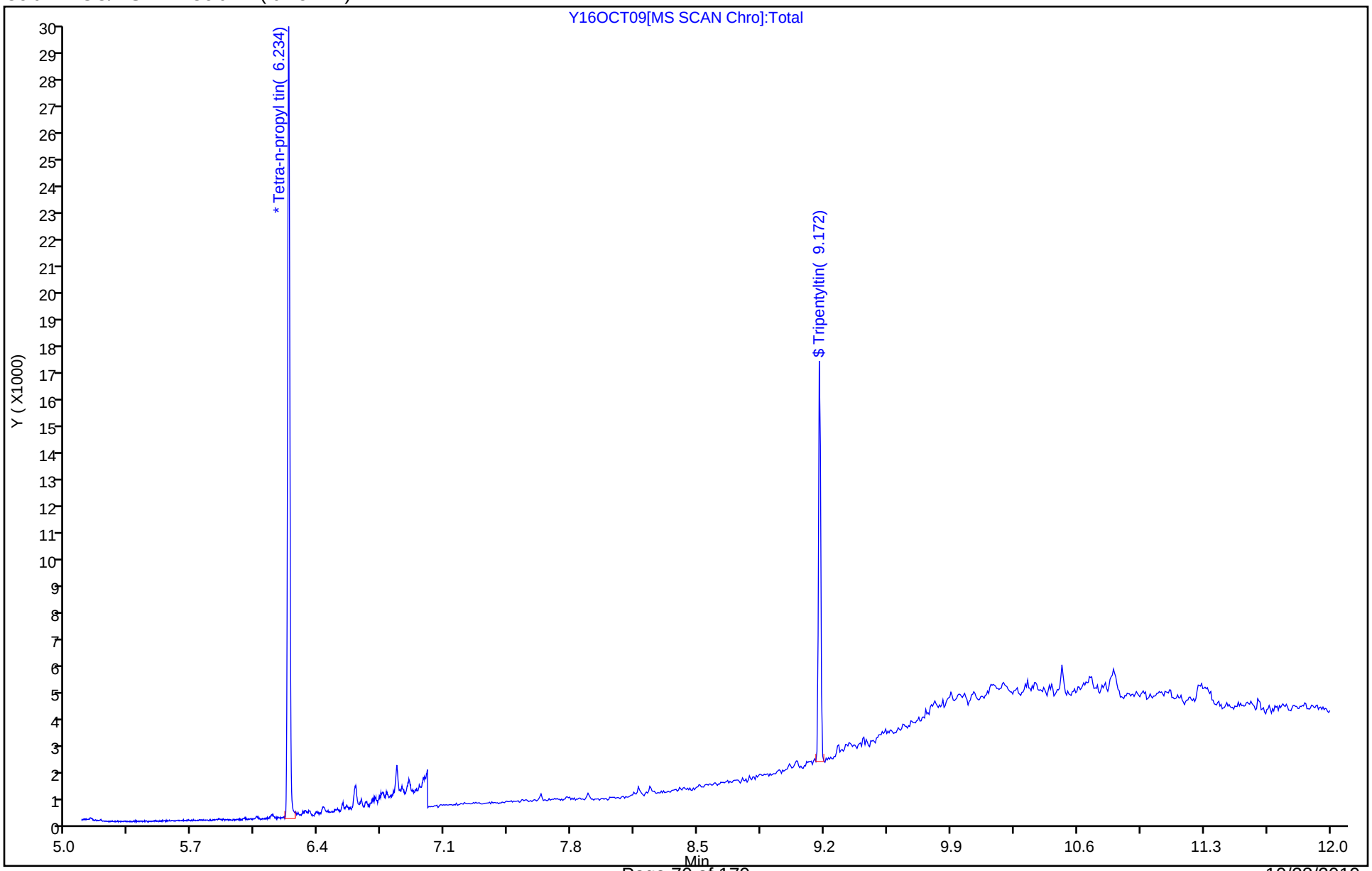
Report Date: 18-Oct-2019 17:32:09 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT09.D

Injection Date:	16-Oct-2019 15:57:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	570-9778-A-3-A	Lab Sample ID:	570-9778-3	Worklist Smp#:	9
Client ID:	A9J0277-04				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Recovery Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT09.D				
Lims ID:	570-9778-A-3-A				
Client ID:	A9J0277-04				
Sample Type:	Client				
Inject. Date:	16-Oct-2019 15:57:30	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	570-9778-a-3-a				
Misc. Info.:	570-0007351-009				
Operator ID:	ulli	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	18-Oct-2019 17:32:02	Calib Date:	07-Oct-2019 11:34:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1012				

First Level Reviewer: nguyenv Date: 16-Oct-2019 16:42:01

Compound	Amount Added	Amount Recovered	% Rec.
$ 6 Tripentyltin	200.0	112.4	56.22

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Calscience | Job No.: 570-9778-1

SDG No.:

Client Sample ID: A9J0277-05 | Lab Sample ID: 570-9778-4

Matrix: Water | Lab File ID: Y16OCT23.D

Analysis Method: Organotins SIM | Date Collected: 10/07/2019 19:15

Extract. Method: Organotin | Date Extracted: 10/15/2019 12:00

Sample wt/vol: 1008.8(mL) | Date Analyzed: 10/16/2019 21:18

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 26370 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
688-73-3	Tributyltin	ND		3.0	1.3

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00386	Tripentyltin	44		19-121

Eurofins Calscience LLC
Target Compound Quantitation Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT23.D				
Lims ID:	570-9778-A-4-A				
Client ID:	A9J0277-05				
Sample Type:	Client				
Inject. Date:	16-Oct-2019 21:18:30	ALS Bottle#:	23	Worklist Smp#:	23
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	570-9778-a-4-a				
Misc. Info.:	570-0007351-023				
Operator ID:	ulli	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	25-Oct-2019 10:31:32	Calib Date:	07-Oct-2019 11:34:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1024				
First Level Reviewer: nguyenv		Date:	18-Oct-2019 17:31:28		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Tetra-n-propyl tin	205	6.236	6.241	-0.005	99	10086	100.0	
3 Tributyltin	305		8.145				ND	
$ 6 Tripentyltin	333	9.179	9.172	0.007	96	4353	87.1	

Reagents:

MS-Otins-ISW_00002 Amount Added: 0.01 Units: mL Run Reagent

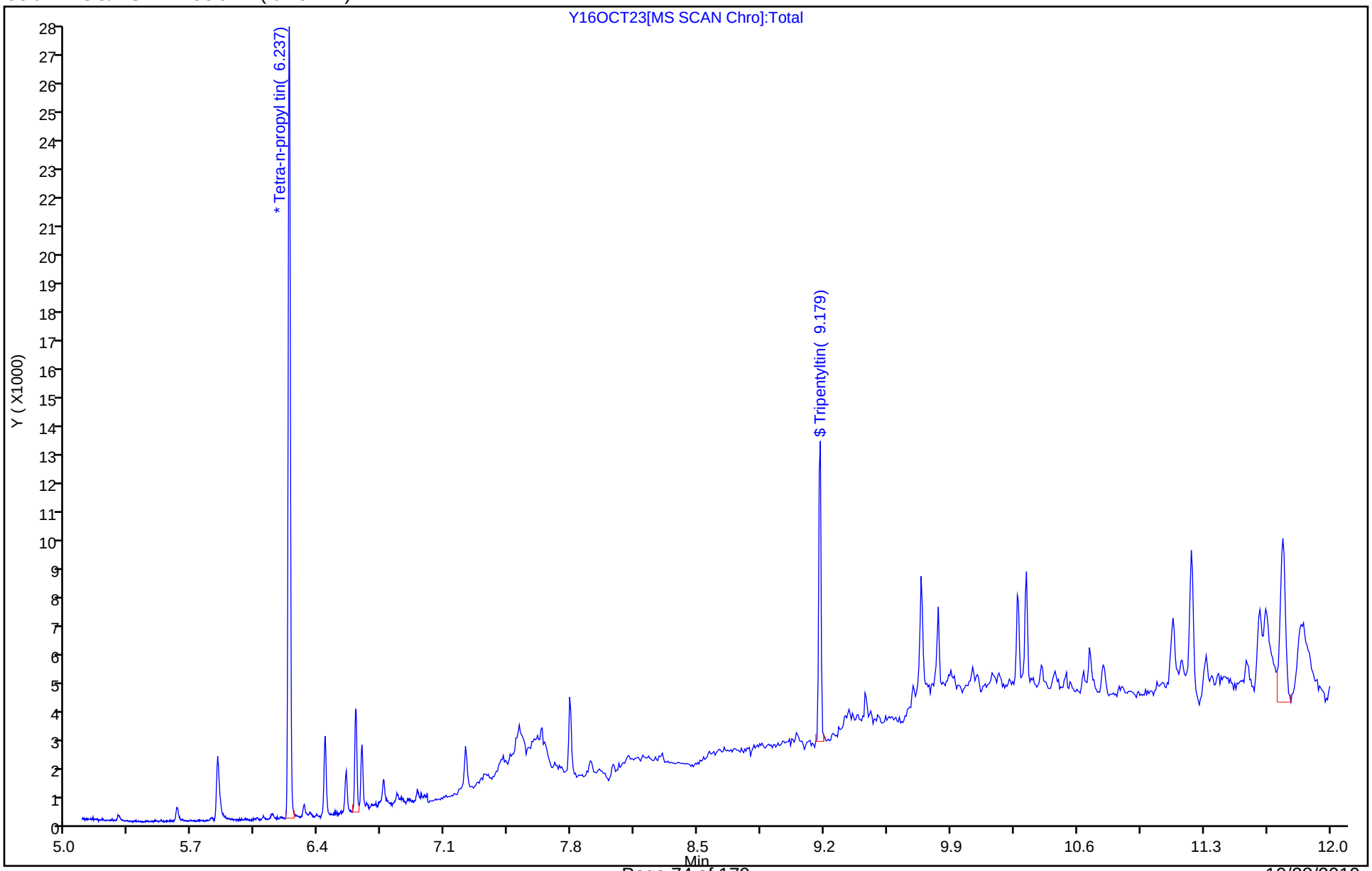
Report Date: 25-Oct-2019 15:16:51 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT23.D

Injection Date:	16-Oct-2019 21:18:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	570-9778-A-4-A	Lab Sample ID:	570-9778-4	Worklist Smp#:	23
Client ID:	A9J0277-05				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Recovery Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT23.D				
Lims ID:	570-9778-A-4-A				
Client ID:	A9J0277-05				
Sample Type:	Client				
Inject. Date:	16-Oct-2019 21:18:30	ALS Bottle#:	23	Worklist Smp#:	23
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	570-9778-a-4-a				
Misc. Info.:	570-0007351-023				
Operator ID:	ulli	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	25-Oct-2019 10:31:32	Calib Date:	07-Oct-2019 11:34:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1024				

First Level Reviewer: nguyenv Date: 18-Oct-2019 17:31:28

Compound	Amount Added	Amount Recovered	% Rec.
$ 6 Tripentyltin	200.0	87.1	43.53

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Calscience Job No.: 570-9778-1 Analy Batch No.: 24154

SDG No.:

Instrument ID: GCMSY GC Column: AAA Agilent ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/07/2019 10:23 Calibration End Date: 10/07/2019 11:34 Calibration ID: 4148

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 570-24154/6	Y07OCT06.D
Level 2	IC 570-24154/5	Y07OCT05.D
Level 3	ICIS 570-24154/4	Y07OCT04.D
Level 4	IC 570-24154/3	Y07OCT03.D
Level 5	IC 570-24154/2	Y07OCT02.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Tetrabutyltin	0.6185	0.7348	0.7046	0.6694	0.6575	Ave		0.6770				6.6		20.0			
Tributyltin	0.4352	0.5571	0.5539	0.5272	0.5306	Ave		0.5208				9.5		20.0			
Dibutyltin	0.4095	0.3567	0.3456	0.3375	0.3453	Ave		0.3589				8.1		20.0			
Monobutyltin	0.3608	0.3569	0.3671	0.3503	0.3598	Ave		0.3590				1.7		20.0			
Tripentyltin	0.5383	0.4865	0.5001	0.4839	0.4701	Ave		0.4958				5.3		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Calscience Job No.: 570-9778-1 Analy Batch No.: 24154

SDG No.:

Instrument ID: GCMSY GC Column: AAA Agilent ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/07/2019 10:23 Calibration End Date: 10/07/2019 11:34 Calibration ID: 4148

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 570-24154/6	Y07OCT06.D
Level 2	IC 570-24154/5	Y07OCT05.D
Level 3	ICIS 570-24154/4	Y07OCT04.D
Level 4	IC 570-24154/3	Y07OCT03.D
Level 5	IC 570-24154/2	Y07OCT02.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Tetrabutyltin	TPT	Ave	216	4089	7889	15547	31773	3.00	50.0	100	200	400
Tributyltin	TPT	Ave	152	3100	6202	12244	25643	3.00	50.0	100	200	400
Dibutyltin	TPT	Ave	143	1985	3869	7838	16687	3.00	50.0	100	200	400
Monobutyltin	TPT	Ave	126	1986	4110	8136	17386	3.00	50.0	100	200	400
Tripentyltin	TPT	Ave	188	2707	5599	11238	22719	3.00	50.0	100	200	400

Curve Type Legend:
Ave = Average ISTD

Eurofins Calscience LLC
Target Compound Quantitation Report

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT02.D
Lims ID: IC L5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 07-Oct-2019 10:23:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC L5
Misc. Info.: 570-0006715-002
Operator ID: ulli Instrument ID: GCMSY
Sublist: chrom-Organotins by Krone*sub2

Method: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Organotins by Krone.m
Limit Group: MSS - Organotins
Last Update: 07-Oct-2019 15:07:35 Calib Date: 07-Oct-2019 11:34:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D

Column 1 : GC/MS AAA Column (0.25 mm) Det: MS SCAN
Process Host: CTX1010

First Level Reviewer: nguyenv Date: 07-Oct-2019 11:35:29

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
*	1 Tetra-n-propyl tin	205	6.236	6.243	-0.007	96	12081	100.0	100.0	
	2 Tetra-n-butyltin	291	7.771	7.771	0.000	94	31773	400.0	388.5	
	3 Tributyltin	305	8.152	8.152	0.000	92	25643	400.0	407.5	
	4 Dibutyltin	319	8.507	8.513	-0.006	99	16687	400.0	384.8	
	5 Monobutyltin	319	8.849	8.855	-0.006	99	17386	400.0	400.9	
$	6 Tripentyltin	333	9.179	9.179	0.000	95	22719	400.0	379.3	

Reagents:

MS-Otins-Ca5_00003 Amount Added: 1.00 Units: mL

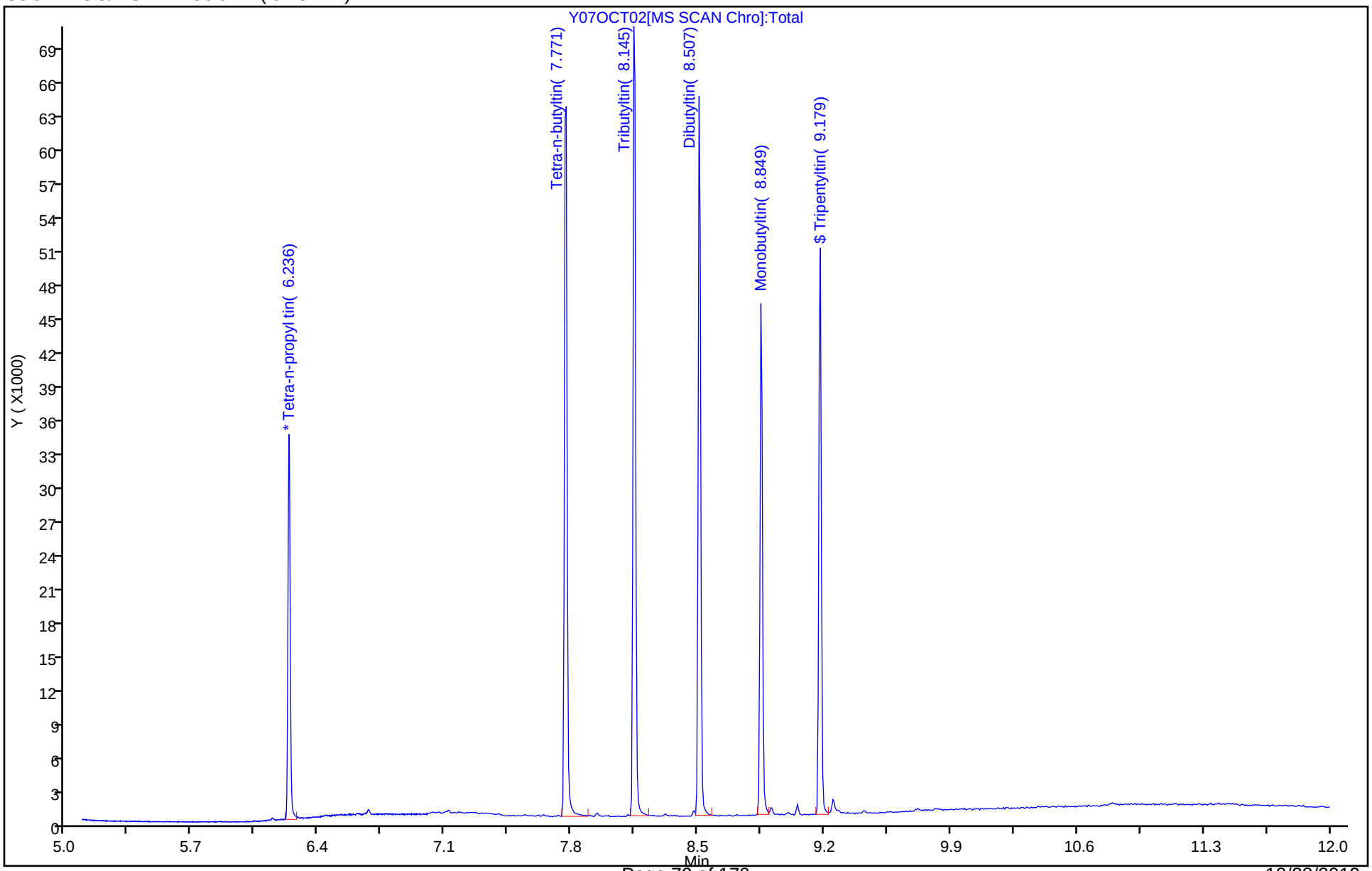
Report Date: 07-Oct-2019 15:07:35 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT02.D

Injection Date:	07-Oct-2019 10:23:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	IC L5			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Target Compound Quantitation Report

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT03.D
Lims ID: IC L4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 07-Oct-2019 10:41:30 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC L4
Misc. Info.: 570-0006715-003
Operator ID: ulli Instrument ID: GCMSY
Sublist: chrom-Organotins by Krone*sub2

Method: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Organotins by Krone.m
Limit Group: MSS - Organotins
Last Update: 07-Oct-2019 15:07:36 Calib Date: 07-Oct-2019 11:34:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D

Column 1 : GC/MS AAA Column (0.25 mm) Det: MS SCAN
Process Host: CTX1010

First Level Reviewer: nguyenv Date: 07-Oct-2019 12:08:40

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
*	1 Tetra-n-propyl tin	205	6.243	6.243	0.000	97	11613	100.0	100.0	
	2 Tetra-n-butyltin	291	7.771	7.771	0.000	98	15547	200.0	197.8	
	3 Tributyltin	305	8.152	8.152	0.000	97	12244	200.0	202.4	
	4 Dibutyltin	319	8.513	8.513	0.000	96	7838	200.0	188.1	
	5 Monobutyltin	319	8.855	8.855	0.000	96	8136	200.0	195.2	
$	6 Tripentyltin	333	9.179	9.179	0.000	95	11238	200.0	195.2	

Reagents:

MS-Otins-Ca4_00004 Amount Added: 1.00 Units: mL

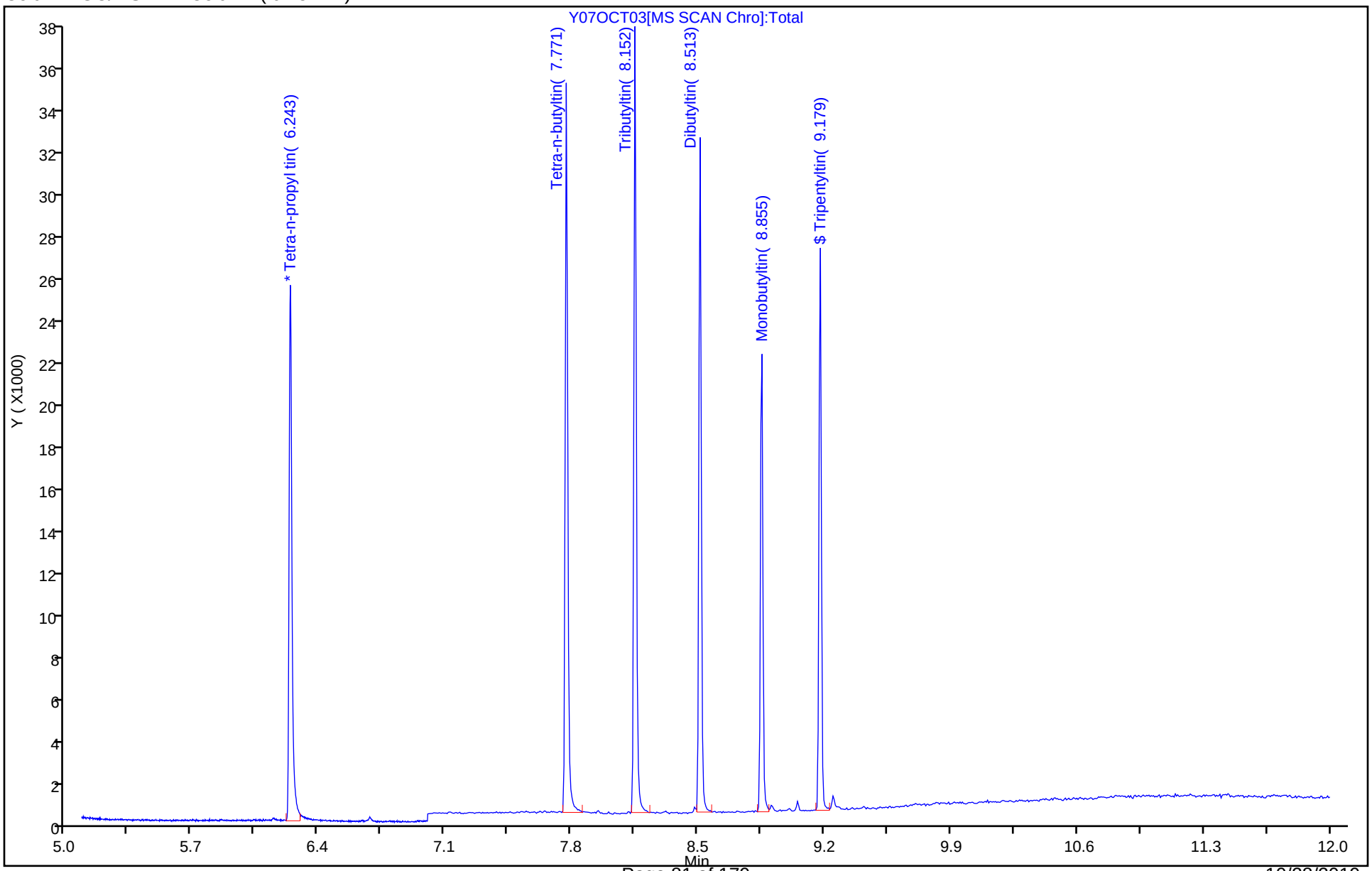
Report Date: 07-Oct-2019 15:07:36 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT03.D

Injection Date:	07-Oct-2019 10:41:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	IC L4			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Target Compound Quantitation Report

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT04.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 3
Inject. Date: 07-Oct-2019 10:59:30 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICIS
Misc. Info.: 570-0006715-004
Operator ID: ulli Instrument ID: GCMSY
Sublist: chrom-Organotins by Krone*sub2

Method: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Organotins by Krone.m
Limit Group: MSS - Organotins
Last Update: 07-Oct-2019 15:07:36 Calib Date: 07-Oct-2019 11:34:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D

Column 1 : GC/MS AAA Column (0.25 mm) Det: MS SCAN
Process Host: CTX1010

First Level Reviewer: nguyenv Date: 07-Oct-2019 11:34:53

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Tetra-n-propyl tin	205	6.243	6.243	0.000	98	11196	100.0	100.0	
2 Tetra-n-butyltin	291	7.771	7.771	0.000	99	7889	100.0	104.1	
3 Tributyltin	305	8.152	8.152	0.000	100	6202	100.0	106.4	
4 Dibutyltin	319	8.513	8.513	0.000	99	3869	100.0	96.3	
5 Monobutyltin	319	8.855	8.855	0.000	98	4110	100.0	102.3	
$ 6 Tripentyltin	333	9.179	9.179	0.000	98	5599	100.0	100.9	

Reagents:

MS-Otins-Ca3_00003 Amount Added: 1.00 Units: mL

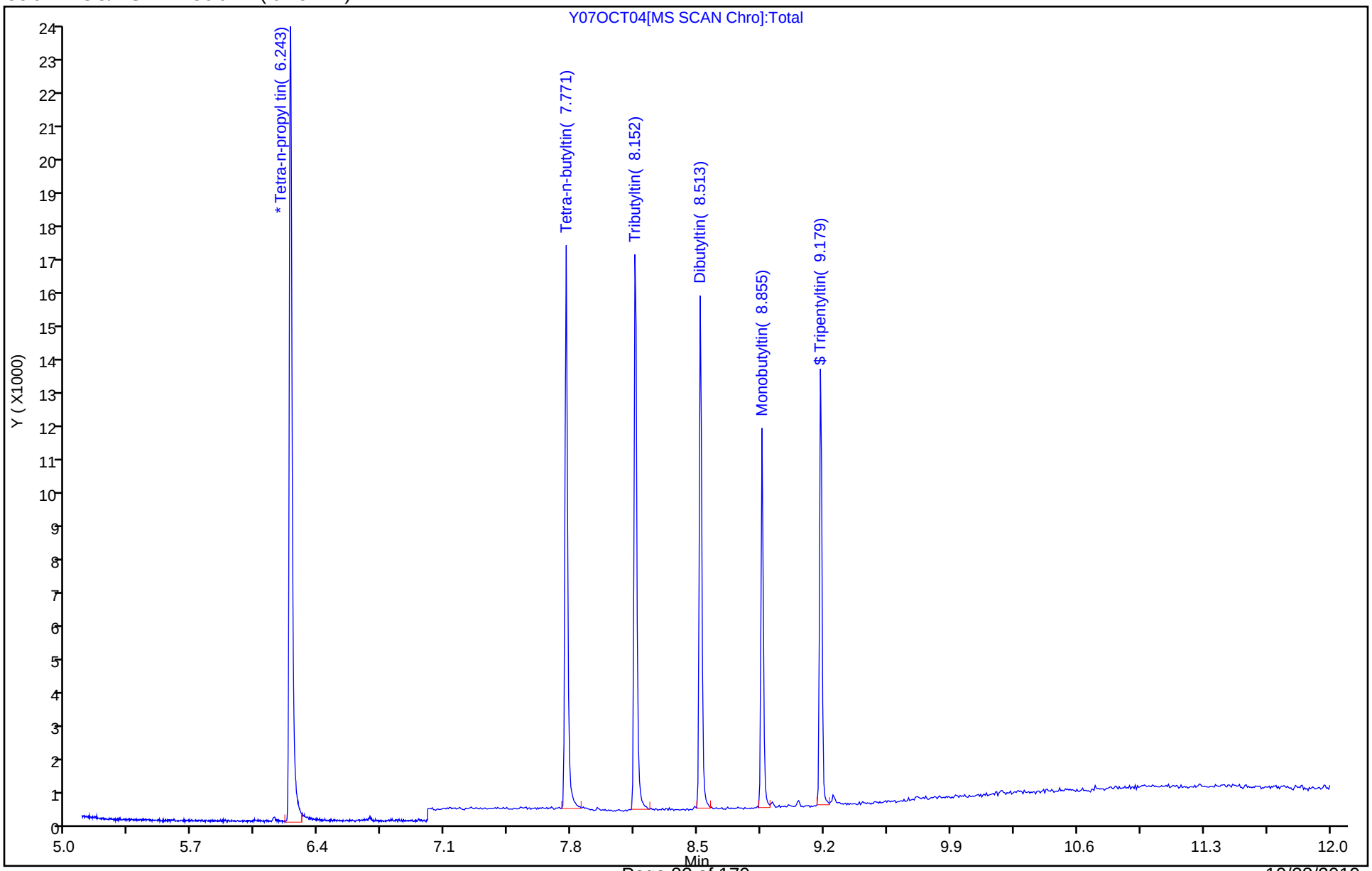
Report Date: 07-Oct-2019 15:07:36 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT04.D

Injection Date:	07-Oct-2019 10:59:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	ICIS			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Target Compound Quantitation Report

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT05.D
Lims ID: IC L2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 07-Oct-2019 11:16:30 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC L2
Misc. Info.: 570-0006715-005
Operator ID: ulli Instrument ID: GCMSY
Sublist: chrom-Organotins by Krone*sub2

Method: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Organotins by Krone.m
Limit Group: MSS - Organotins
Last Update: 07-Oct-2019 15:07:37 Calib Date: 07-Oct-2019 11:34:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D

Column 1 : GC/MS AAA Column (0.25 mm) Det: MS SCAN
Process Host: CTX1010

First Level Reviewer: nguyenv Date: 07-Oct-2019 11:35:25

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
*	1 Tetra-n-propyl tin	205	6.241	6.243	-0.002	100	11129	100.0	100.0	
	2 Tetra-n-butyltin	291	7.777	7.771	0.006	97	4089	50.0	54.3	
	3 Tributyltin	305	8.158	8.152	0.006	100	3100	50.0	53.5	
	4 Dibutyltin	319	8.519	8.513	0.006	98	1985	50.0	49.7	
	5 Monobutyltin	319	8.862	8.855	0.007	99	1986	50.0	49.7	
$	6 Tripentyltin	333	9.185	9.179	0.006	99	2707	50.0	49.1	

Reagents:

MS-Otins-Ca2_00003 Amount Added: 1.00 Units: mL

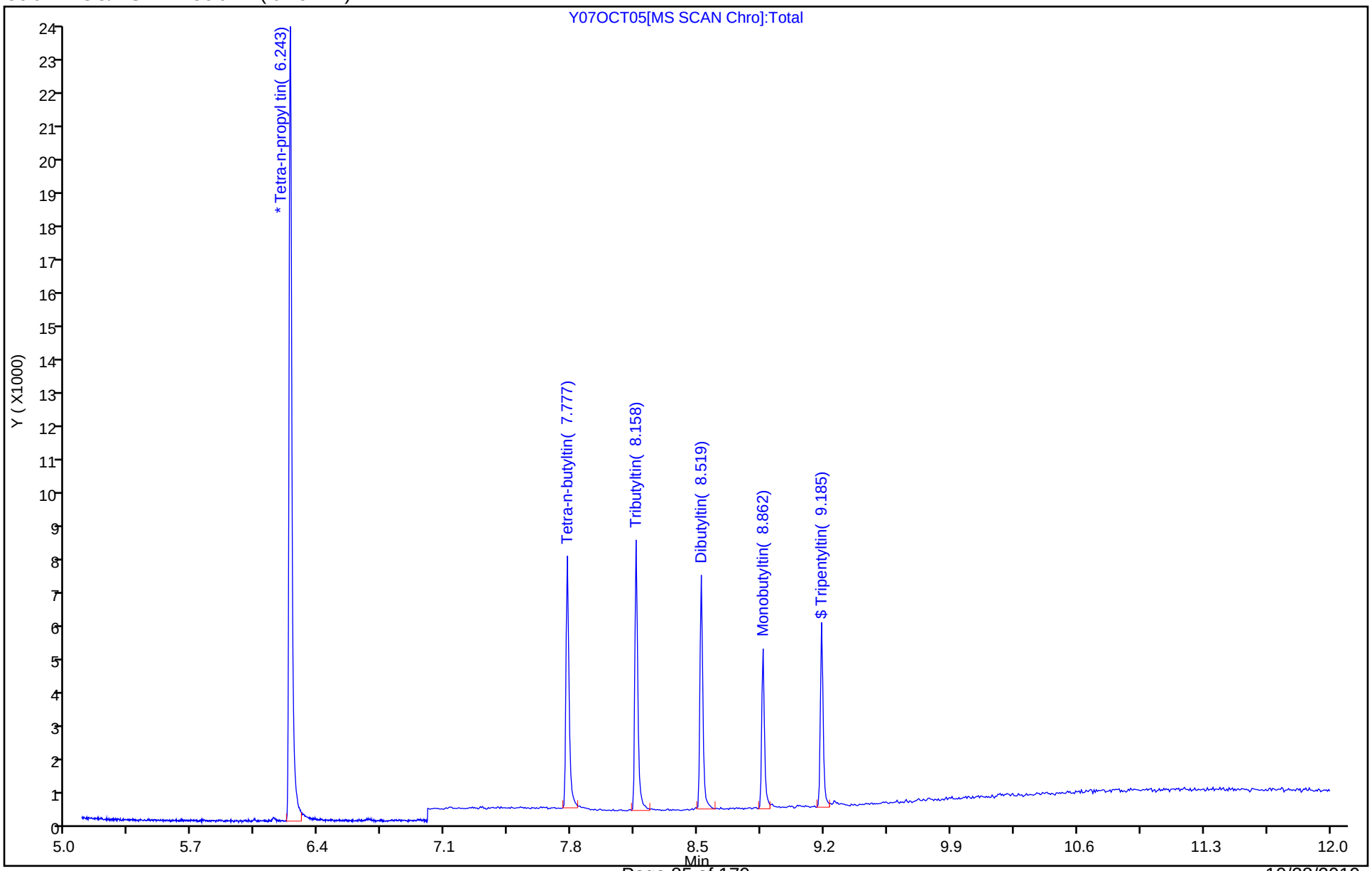
Report Date: 07-Oct-2019 15:07:37 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT05.D

Injection Date:	07-Oct-2019 11:16:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	IC L2			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Target Compound Quantitation Report

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D
Lims ID: IC L1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 07-Oct-2019 11:34:30 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC L1
Misc. Info.: 570-0006715-006
Operator ID: ulli Instrument ID: GCMSY
Sublist: chrom-Organotins by Krone*sub2

Method: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Organotins by Krone.m
Limit Group: MSS - Organotins
Last Update: 07-Oct-2019 15:07:37 Calib Date: 07-Oct-2019 11:34:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D

Column 1 : GC/MS AAA Column (0.25 mm) Det: MS SCAN
Process Host: CTX1010

First Level Reviewer: nguyenv Date: 07-Oct-2019 12:08:12

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Tetra-n-propyl tin	205	6.286	6.243	0.043	98	11641	100.0	100.0	
2 Tetra-n-butyltin	291	7.809	7.771	0.038	81	216	3.00	2.74	
3 Tributyltin	305	8.189	8.152	0.037	73	152	3.00	2.51	
4 Dibutyltin	319	8.544	8.513	0.031	87	143	3.00	3.42	
5 Monobutyltin	319	8.880	8.855	0.025	62	126	3.00	3.02	
$ 6 Tripentyltin	333	9.204	9.179	0.025	81	188	3.00	3.26	

Reagents:

MS-Otins-Ca1_00005 Amount Added: 1.00 Units: mL

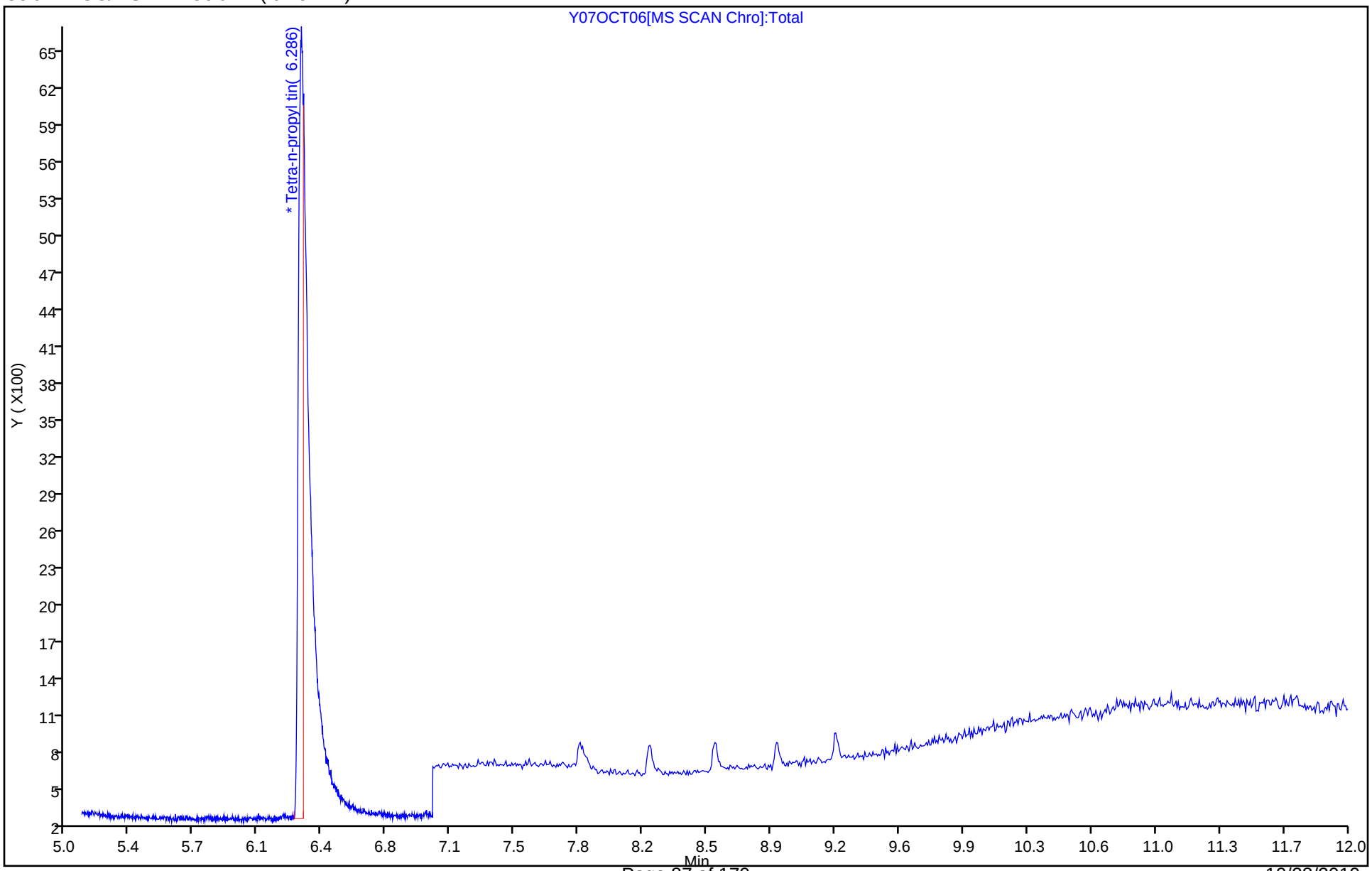
Report Date: 07-Oct-2019 15:07:37 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D

Injection Date:	07-Oct-2019 11:34:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	IC L1			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Calscience Job No.: 570-9778-1 Analy Batch No.: 28530

SDG No.:

Instrument ID: GCMSY GC Column: AAA Agilent ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/25/2019 10:53 Calibration End Date: 10/25/2019 12:05 Calibration ID: 4543

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 570-28530/6	Y25OCT13.D
Level 2	IC 570-28530/5	Y25OCT12.D
Level 3	ICIS 570-28530/4	Y25OCT11.D
Level 4	IC 570-28530/3	Y25OCT10.D
Level 5	IC 570-28530/2	Y25OCT09.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Tetrabutyltin	0.6038	0.7308	0.6716	0.6100	0.5760	Ave		0.6384				9.8		20.0			
Tributyltin	0.5108	0.5883	0.5526	0.5032	0.4688	Ave		0.5247				8.8		20.0			
Dibutyltin	0.3275	0.4100	0.3719	0.3457	0.3367	Ave		0.3583				9.3		20.0			
Monobutyltin	0.3773	0.4148	0.3873	0.3603	0.3334	Ave		0.3746				8.1		20.0			
Tripentyltin	0.5364	0.6152	0.5717	0.5104	0.4858	Ave		0.5439				9.4		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Calscience Job No.: 570-9778-1 Analy Batch No.: 28530

SDG No.:

Instrument ID: GCMSY GC Column: AAA Agilent ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/25/2019 10:53 Calibration End Date: 10/25/2019 12:05 Calibration ID: 4543

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 570-28530/6	Y25OCT13.D
Level 2	IC 570-28530/5	Y25OCT12.D
Level 3	ICIS 570-28530/4	Y25OCT11.D
Level 4	IC 570-28530/3	Y25OCT10.D
Level 5	IC 570-28530/2	Y25OCT09.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Tetrabutyltin	TPT	Ave	448	7587	13526	25215	47417	3.00	50.0	100	200	400
Tributyltin	TPT	Ave	379	6107	11128	20799	38593	3.00	50.0	100	200	400
Dibutyltin	TPT	Ave	243	4256	7489	14290	27717	3.00	50.0	100	200	400
Monobutyltin	TPT	Ave	280	4306	7799	14893	27445	3.00	50.0	100	200	400
Tripentyltin	TPT	Ave	398	6387	11513	21097	39996	3.00	50.0	100	200	400

Curve Type Legend:
Ave = Average ISTD

Eurofins Calscience LLC
Target Compound Quantitation Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT09.D				
Lims ID:	IC L5				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	25-Oct-2019 10:53:30	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC L5				
Misc. Info.:	570-0007982-002				
Operator ID:	ULLI	Instrument ID:	GCMSY		
Sublist:	chrom-Organotins by Krone*sub2				
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	25-Oct-2019 13:23:51	Calib Date:	25-Oct-2019 12:05:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT13.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1024				
First Level Reviewer: nguyenv		Date:	25-Oct-2019 11:55:49		

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
*	1 Tetra-n-propyl tin	205	6.254	6.261	-0.007	98	20582	100.0	100.0	
	2 Tetra-n-butyltin	291	7.785	7.786	-0.001	97	47417	400.0	360.9	
	3 Tributyltin	305	8.166	8.166	0.000	95	38593	400.0	357.4	
	4 Dibutyltin	319	8.527	8.534	-0.007	91	27717	400.0	375.8	
	5 Monobutyltin	319	8.870	8.870	0.000	95	27445	400.0	356.0	
$	6 Tripentyltin	333	9.193	9.200	-0.007	96	39996	400.0	357.3	

Reagents:

MS-Otins-Ca5_00003 Amount Added: 1.00 Units: mL

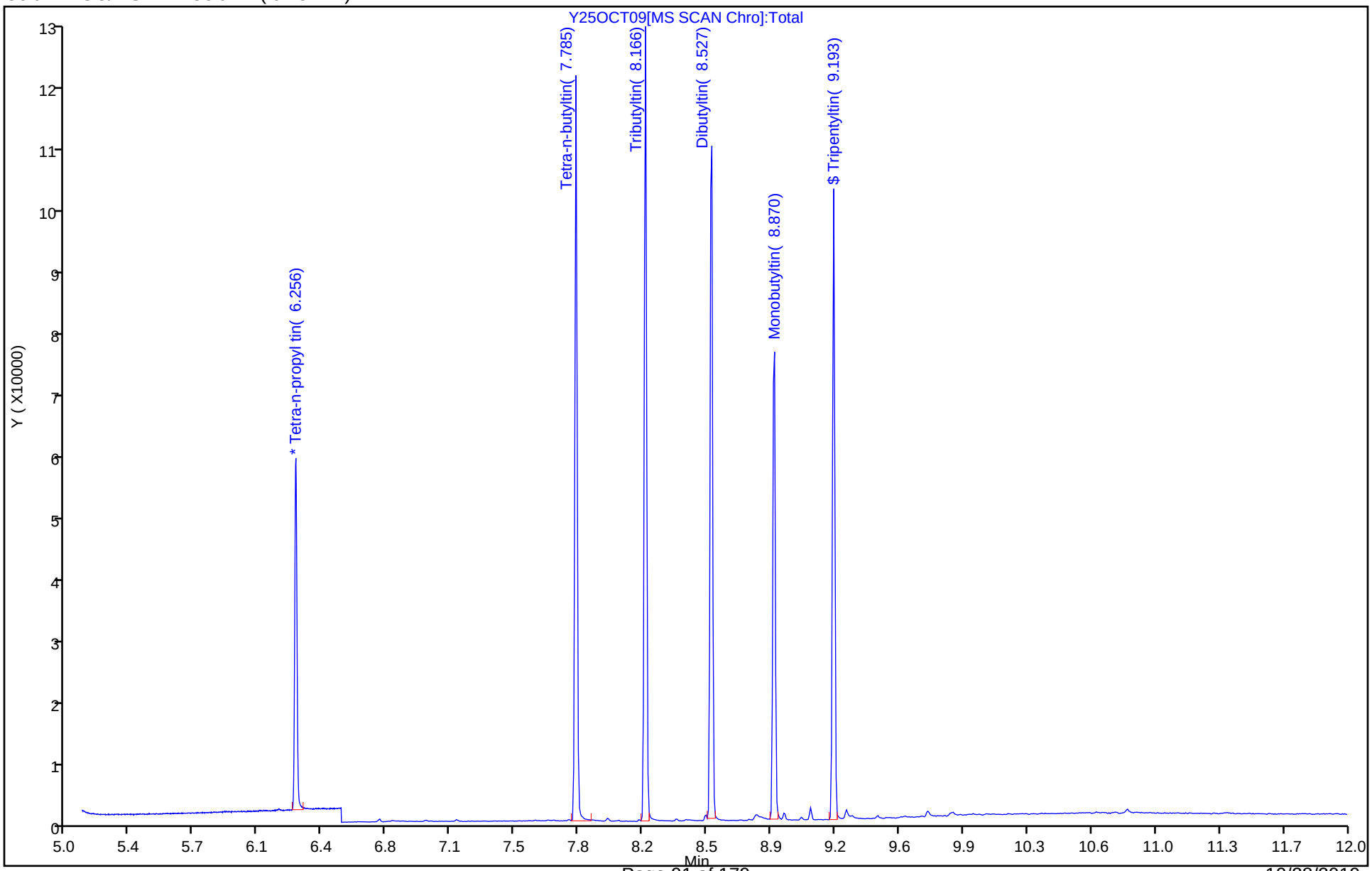
Report Date: 25-Oct-2019 13:23:51 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT09.D

Injection Date:	25-Oct-2019 10:53:30	Instrument ID:	GCMSY	Operator ID:	ULLI
Lims ID:	IC L5			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Target Compound Quantitation Report

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT10.D
Lims ID: IC L4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 25-Oct-2019 11:10:30 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC L4
Misc. Info.: 570-0007982-003 570-0007982-002
Operator ID: ULLI Instrument ID: GCMSY
Sublist: chrom-Organotins by Krone*sub2

Method: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Organotins by Krone.m
Limit Group: MSS - Organotins
Last Update: 25-Oct-2019 13:23:52 Calib Date: 25-Oct-2019 12:05:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT13.D

Column 1 : GC/MS AAA Column (0.25 mm) Det: MS SCAN
Process Host: CTX1024

First Level Reviewer: nguyenv Date: 25-Oct-2019 11:53:31

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Tetra-n-propyl tin	205	6.258	6.261	-0.003	98	20667	100.0	100.0	
2 Tetra-n-butyltin	291	7.784	7.786	-0.002	95	25215	200.0	191.1	
3 Tributyltin	305	8.164	8.166	-0.002	94	20799	200.0	191.8	
4 Dibutyltin	319	8.526	8.534	-0.008	95	14290	200.0	193.0	
5 Monobutyltin	319	8.868	8.870	-0.002	97	14893	200.0	192.4	
$ 6 Tripentyltin	333	9.191	9.200	-0.009	97	21097	200.0	187.7	

Reagents:

MS-Otins-Ca4_00004 Amount Added: 1.00 Units: mL

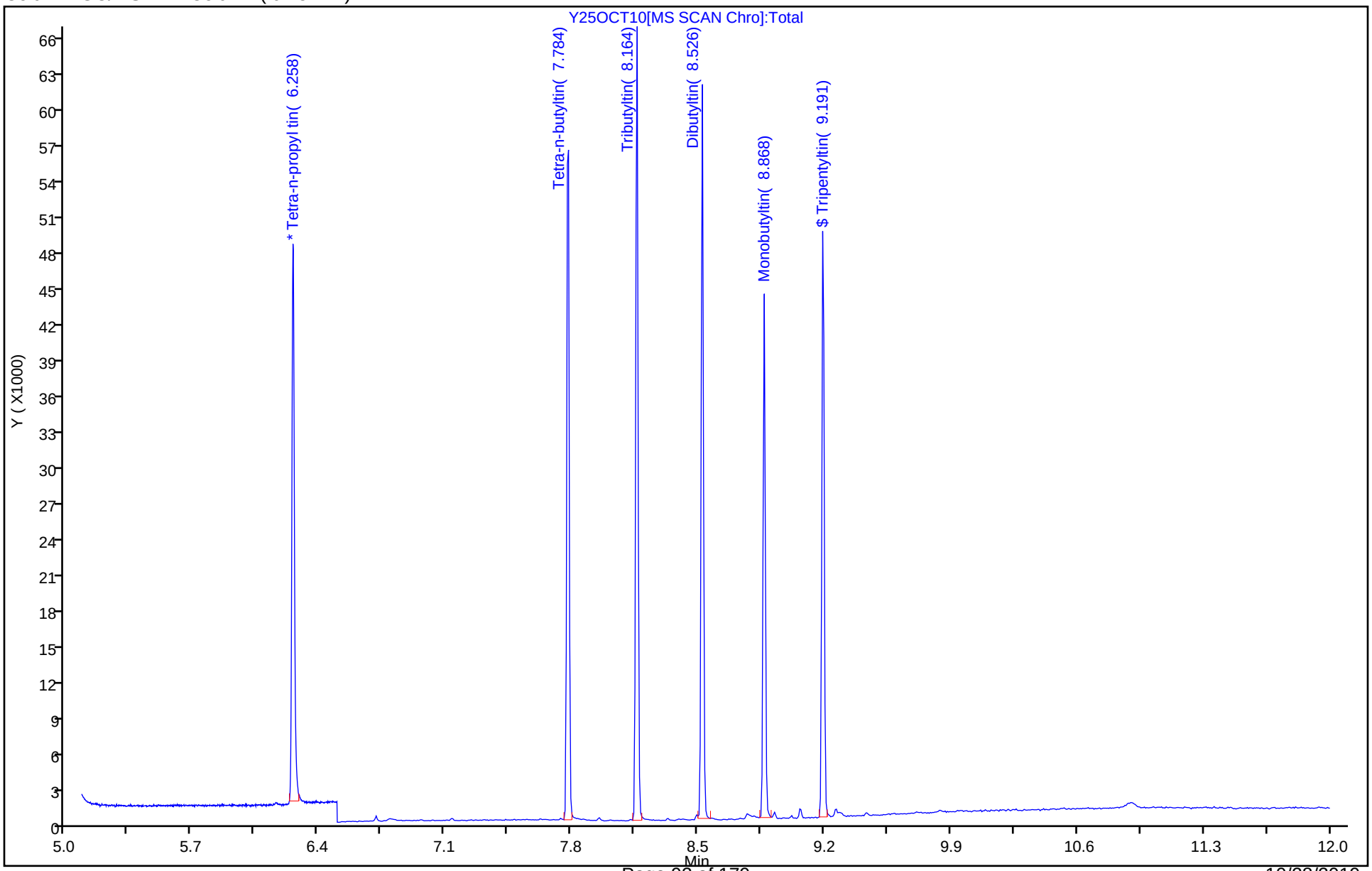
Report Date: 25-Oct-2019 13:23:52 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT10.D

Injection Date:	25-Oct-2019 11:10:30	Instrument ID:	GCMSY	Operator ID:	ULLI
Lims ID:	IC L4			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Target Compound Quantitation Report

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT11.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 3
Inject. Date: 25-Oct-2019 11:28:30 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICIS
Misc. Info.: 570-0007982-004
Operator ID: ULLI Instrument ID: GCMSY
Sublist: chrom-Organotins by Krone*sub2

Method: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Organotins by Krone.m
Limit Group: MSS - Organotins
Last Update: 25-Oct-2019 13:23:52 Calib Date: 25-Oct-2019 12:05:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT13.D

Column 1 : GC/MS AAA Column (0.25 mm) Det: MS SCAN
Process Host: CTX1024

First Level Reviewer: nguyenv Date: 25-Oct-2019 11:53:21

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Tetra-n-propyl tin	205	6.261	6.261	0.000	99	20139	100.0	100.0	
2 Tetra-n-butyltin	291	7.786	7.786	0.000	96	13526	100.0	105.2	
3 Tributyltin	305	8.166	8.166	0.000	98	11128	100.0	105.3	
4 Dibutyltin	319	8.534	8.534	0.000	92	7489	100.0	103.8	
5 Monobutyltin	319	8.870	8.870	0.000	99	7799	100.0	103.4	
$ 6 Tripentyltin	333	9.200	9.200	0.000	95	11513	100.0	105.1	

Reagents:

MS-Otins-Ca3_00003 Amount Added: 1.00 Units: mL

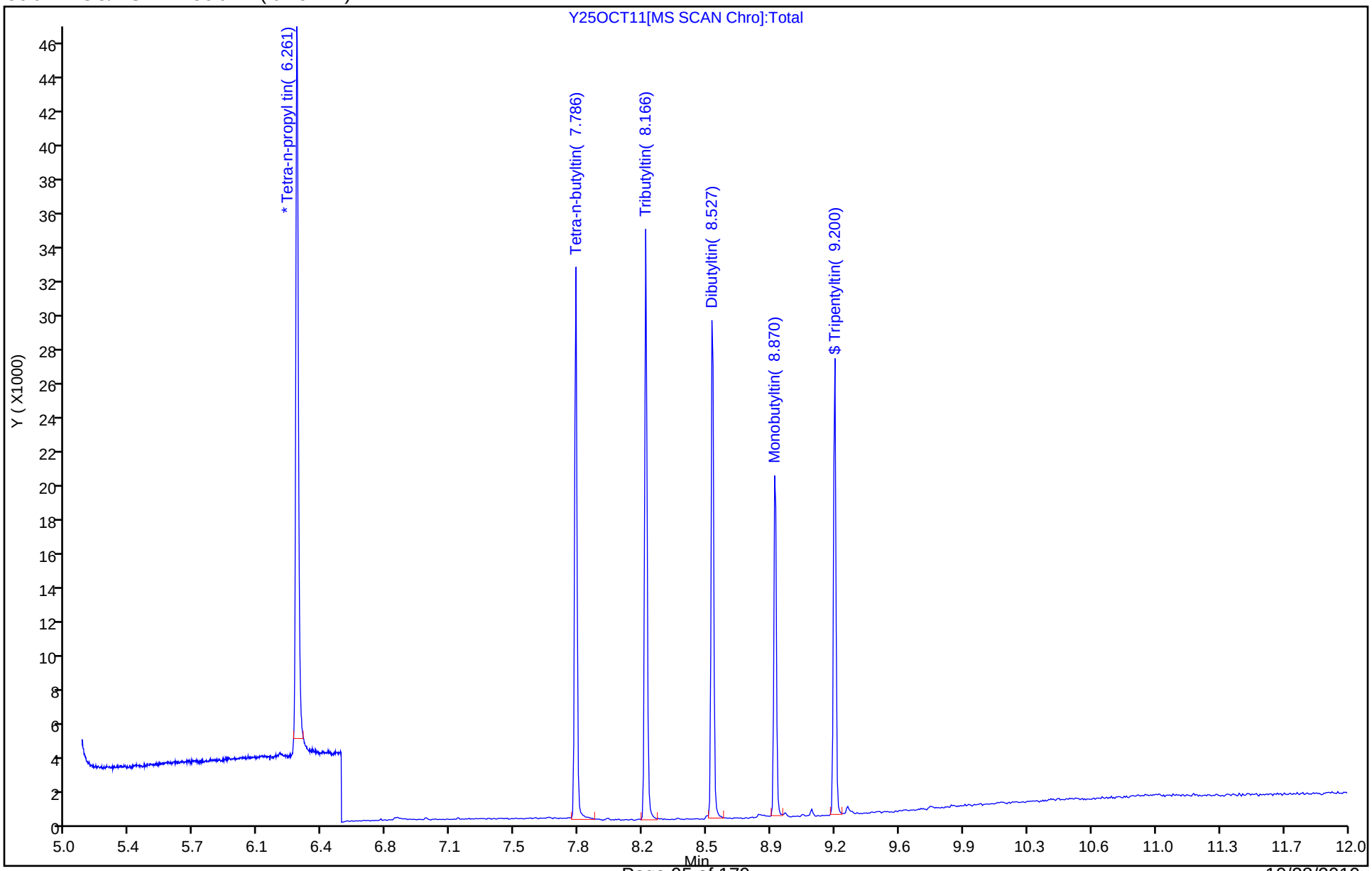
Report Date: 25-Oct-2019 13:23:53 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT11.D

Injection Date:	25-Oct-2019 11:28:30	Instrument ID:	GCMSY	Operator ID:	ULLI
Lims ID:	ICIS			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Target Compound Quantitation Report

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT12.D
Lims ID: IC L2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 25-Oct-2019 11:47:30 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC L2
Misc. Info.: 570-0007982-005
Operator ID: ULLI Instrument ID: GCMSY
Sublist: chrom-Organotins by Krone*sub2

Method: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Organotins by Krone.m
Limit Group: MSS - Organotins
Last Update: 25-Oct-2019 13:23:53 Calib Date: 25-Oct-2019 12:05:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT13.D

Column 1 : GC/MS AAA Column (0.25 mm) Det: MS SCAN
Process Host: CTX1024

First Level Reviewer: nguyenv Date: 25-Oct-2019 12:52:27

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
*	1 Tetra-n-propyl tin	205	6.265	6.261	0.004	98	20763	100.0	100.0	
	2 Tetra-n-butyltin	291	7.792	7.786	0.006	100	7587	50.0	57.2	
	3 Tributyltin	305	8.178	8.166	0.012	96	6107	50.0	56.1	
	4 Dibutyltin	319	8.540	8.534	0.006	94	4256	50.0	57.2	
	5 Monobutyltin	319	8.876	8.870	0.006	99	4306	50.0	55.4	
$	6 Tripentyltin	333	9.206	9.200	0.006	98	6387	50.0	56.6	

Reagents:

MS-Otins-Ca2_00003 Amount Added: 1.00 Units: mL

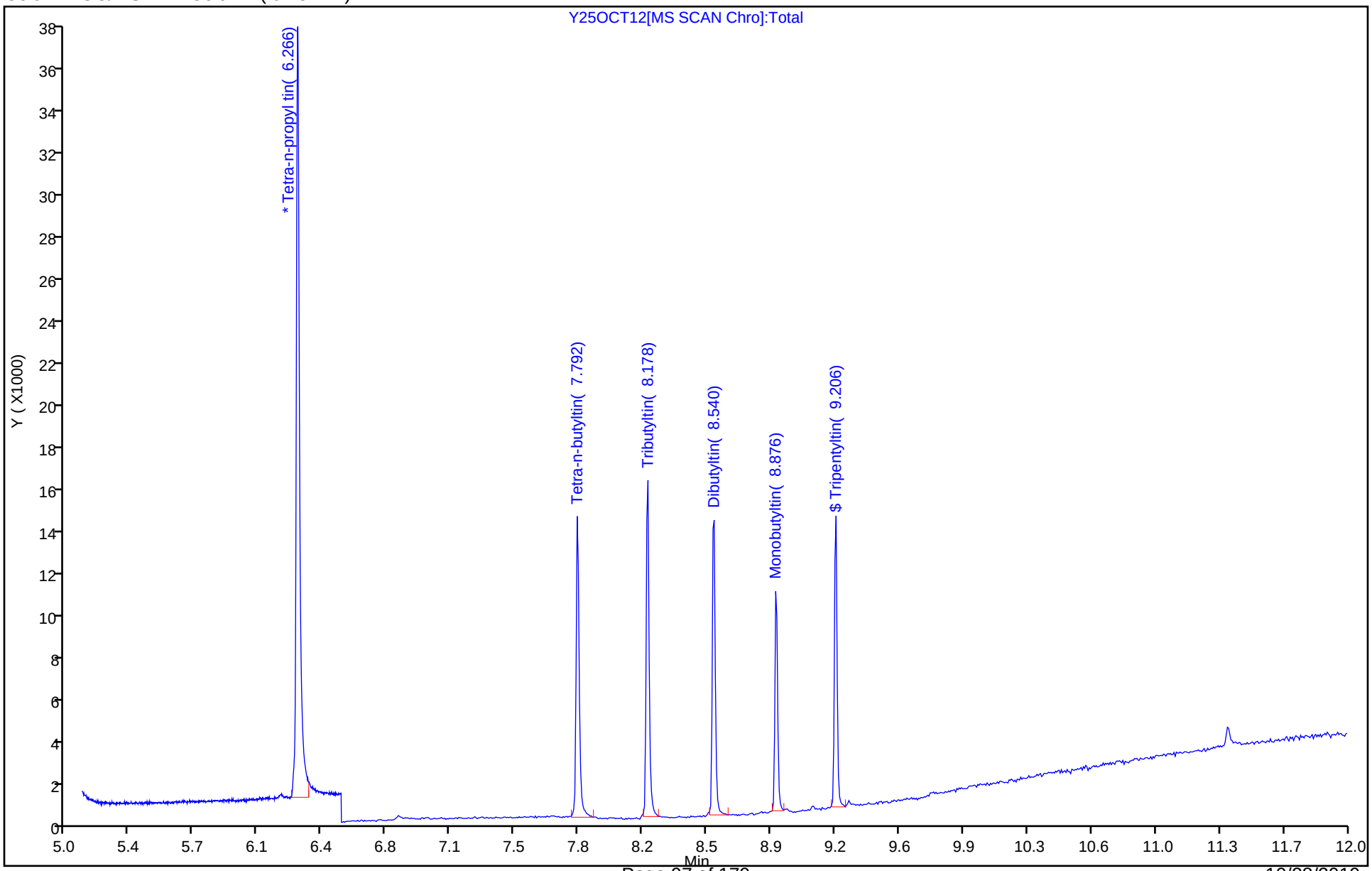
Report Date: 25-Oct-2019 13:23:53 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT12.D

Injection Date:	25-Oct-2019 11:47:30	Instrument ID:	GCMSY	Operator ID:	ULLI
Lims ID:	IC L2			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Target Compound Quantitation Report

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT13.D
Lims ID: IC L1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 25-Oct-2019 12:05:30 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC L1
Misc. Info.: 570-0007982-006
Operator ID: ULLI Instrument ID: GCMSY
Sublist: chrom-Organotins by Krone*sub2

Method: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Organotins by Krone.m
Limit Group: MSS - Organotins
Last Update: 25-Oct-2019 13:23:54 Calib Date: 25-Oct-2019 12:05:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT13.D

Column 1 : GC/MS AAA Column (0.25 mm) Det: MS SCAN
Process Host: CTX1024

First Level Reviewer: nguyenv Date: 25-Oct-2019 12:33:39

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Tetra-n-propyl tin	205	6.331	6.261	0.070	99	24734	100.0	100.0	
2 Tetra-n-butyltin	291	7.836	7.786	0.050	88	448	3.00	2.84	
3 Tributyltin	305	8.204	8.166	0.038	82	379	3.00	2.92	
4 Dibutyltin	319	8.565	8.534	0.031	62	243	3.00	2.74	
5 Monobutyltin	319	8.908	8.870	0.038	42	280	3.00	3.02	
$ 6 Tripentyltin	333	9.231	9.200	0.031	46	398	3.00	2.96	

Reagents:

MS-Otins-Ca1_00005 Amount Added: 1.00 Units: mL

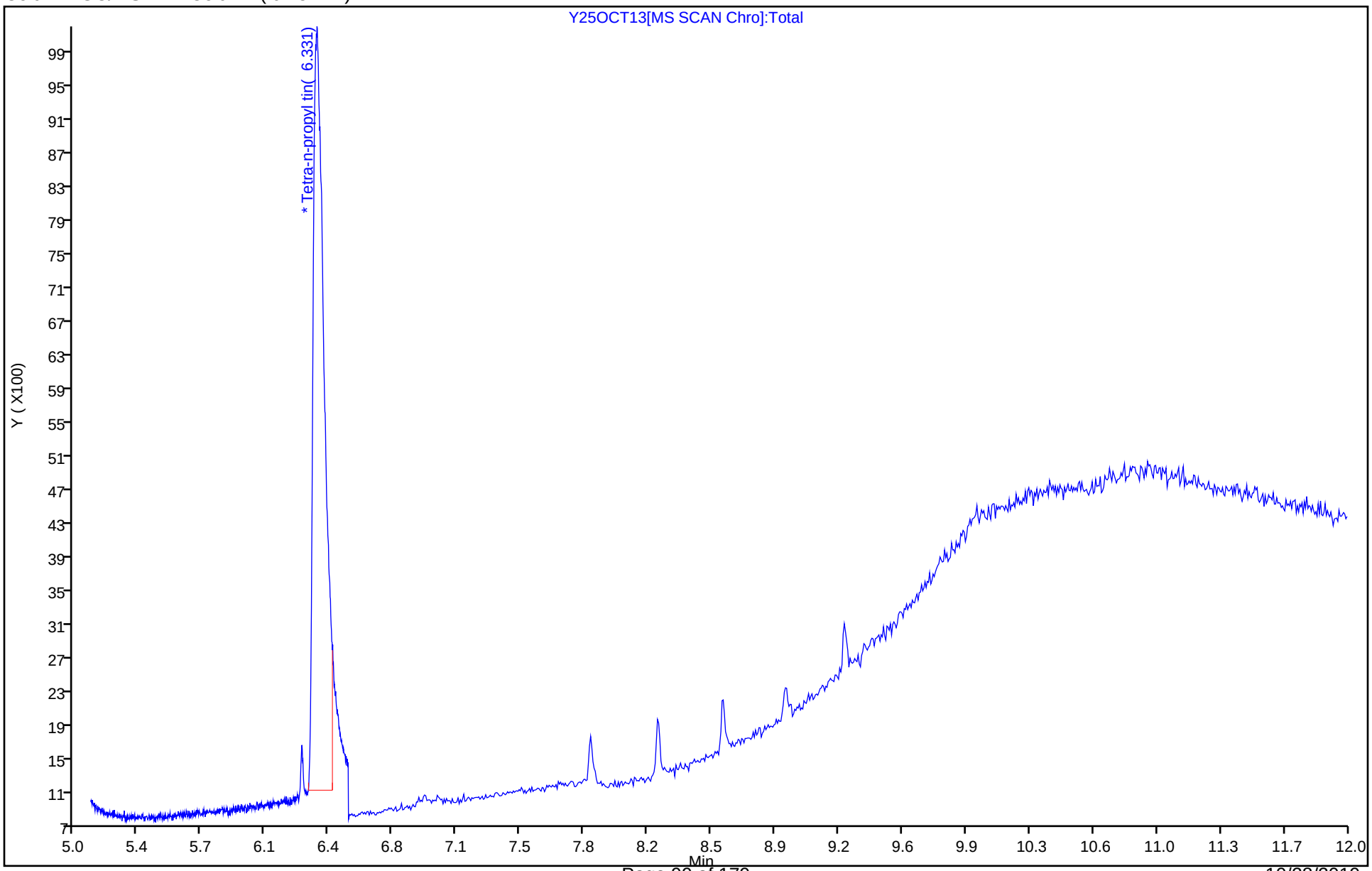
Report Date: 25-Oct-2019 13:23:54 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT13.D

Injection Date:	25-Oct-2019 12:05:30	Instrument ID:	GCMSY	Operator ID:	ULLI
Lims ID:	IC L1			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Lab Sample ID: ICV 570-24154/7 Calibration Date: 10/07/2019 14:45

Instrument ID: GCMSY Calib Start Date: 10/07/2019 10:23

GC Column: AAA Agilent J&W ID: 0.25(mm) Calib End Date: 10/07/2019 11:34

Lab File ID: Y07OCT08.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Tetrabutyltin	Ave	0.6770	0.7674		0.113	0.100	13.4	20.0
Tributyltin	Ave	0.5208	0.5053		0.0970	0.100	-3.0	20.0
Dibutyltin	Ave	0.3589	0.4295		0.120	0.100	19.7	20.0
Monobutyltin	Ave	0.3590	0.4096		0.114	0.100	14.1	20.0
Tripentyltin	Ave	0.4958	0.4536		0.0915	0.100	-8.5	20.0

Eurofins Calscience LLC
Target Compound Quantitation Report

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT08.D
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 07-Oct-2019 14:45:30 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 570-0006715-007
Operator ID: ulli Instrument ID: GCMSY
Sublist:

Method: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Organotins by Krone.m
Limit Group: MSS - Organotins
Last Update: 07-Oct-2019 16:37:22 Calib Date: 07-Oct-2019 11:34:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D

Column 1 : GC/MS AAA Column (0.25 mm) Det: MS SCAN
Process Host: CTX1010

First Level Reviewer: nguyenv Date: 07-Oct-2019 16:37:22

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
*	1 Tetra-n-propyl tin	205	6.245	6.243	0.002	97	12408	100.0	100.0	
	2 Tetra-n-butyltin	291	7.784	7.780	0.007	99	9522	100.0	113.4	
	3 Tributyltin	305	8.164	8.160	0.006	94	6270	100.0	97.0	
	4 Dibutyltin	319	8.519	8.519	0.000	97	5329	100.0	119.7	M
	5 Monobutyltin	319	8.862	8.858	0.007	99	5082	100.0	114.1	
$	6 Tripentyltin	333	9.191	9.188	0.006	97	5628	100.0	91.5	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

MS-Otins-ICV_00002 Amount Added: 1.00 Units: mL

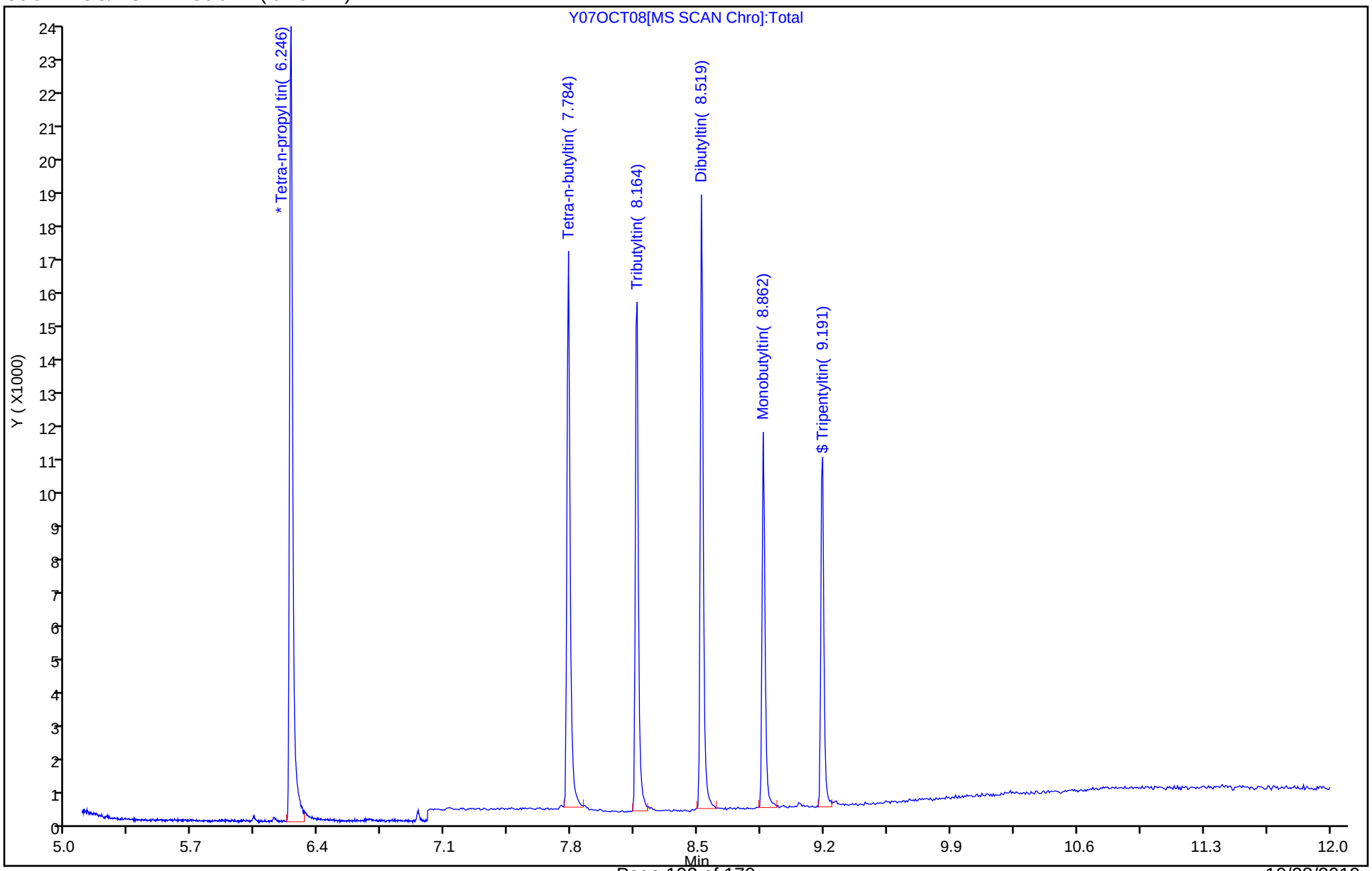
Report Date: 07-Oct-2019 16:37:22 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT08.D

Injection Date:	07-Oct-2019 14:45:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	icv			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Manual Integration/User Assign Peak Report

Eurofins Calscience LLC

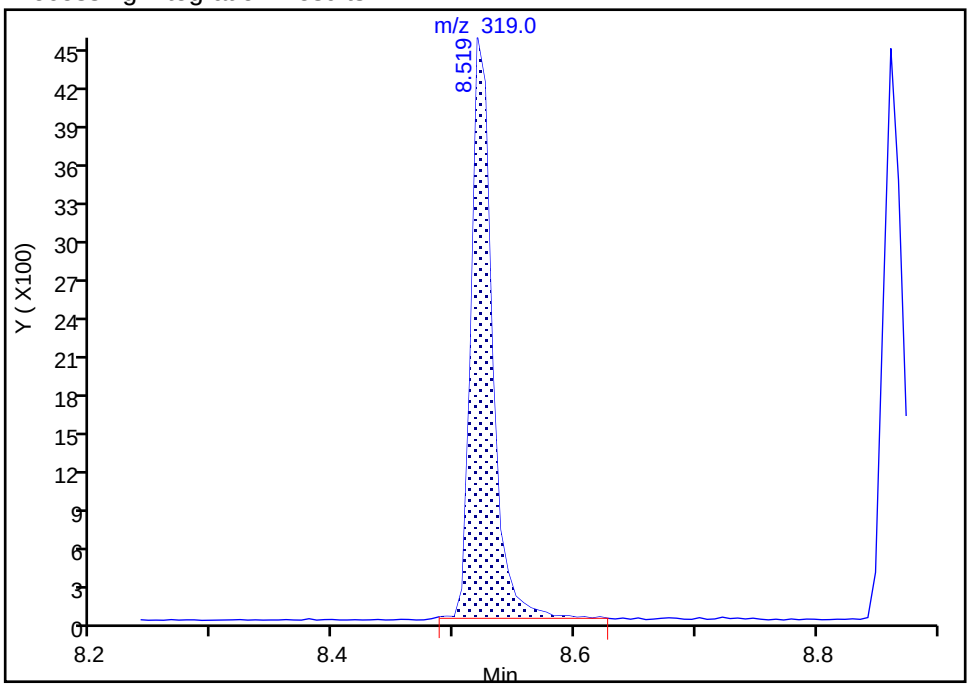
Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT08.D
Injection Date: 07-Oct-2019 14:45:30 Instrument ID: GCMSY
Lims ID: icv
Client ID:
Operator ID: ulli ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Organotins by Krone Limit Group: MSS - Organotins
Column: GC/MS AAA Column (0.25 mm) Detector MS SCAN

4 Dibutyltin, CAS: 1002-53-5

Signal: 1

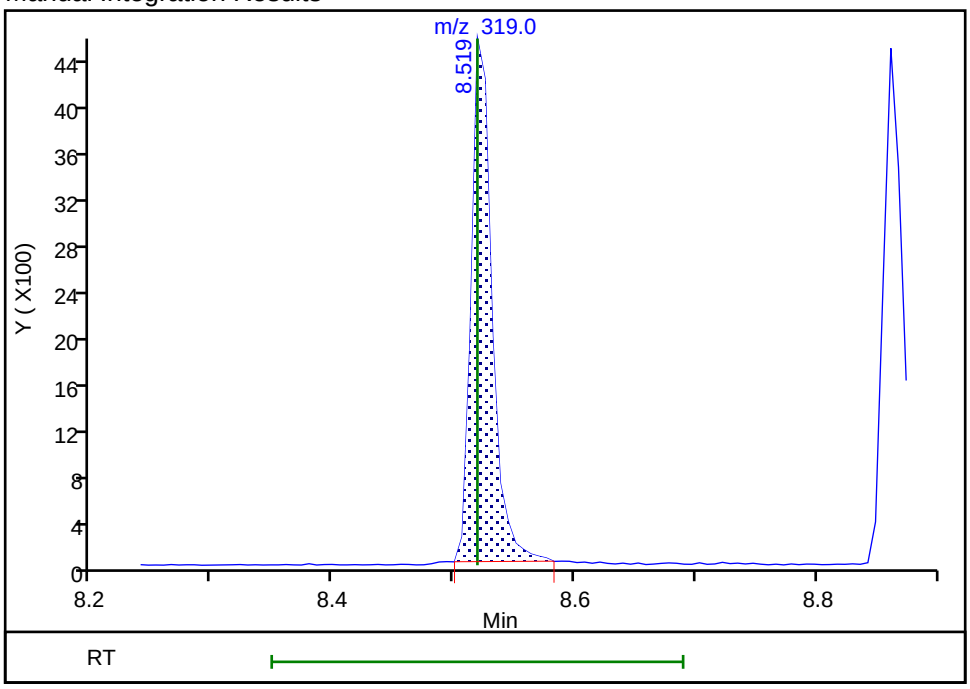
Processing Integration Results

RT: 8.52
Area: 5454
Amount: 122.4695
Amount Units: ug/l



Manual Integration Results

RT: 8.52
Area: 5329
Amount: 119.6626
Amount Units: ug/l



Reviewer: nguyenv, 07-Oct-2019 16:37:19
Audit Action: Manually Integrated Audit Reason: Baseline

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Lab Sample ID: CCVIS 570-26370/2 Calibration Date: 10/16/2019 13:26

Instrument ID: GCMSY Calib Start Date: 10/07/2019 10:23

GC Column: AAA Agilent J&W ID: 0.25(mm) Calib End Date: 10/07/2019 11:34

Lab File ID: Y16OCT02.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Tetrabutyltin	Ave	0.6770	0.7676		0.113	0.100	13.4	20.0
Tributyltin	Ave	0.5208	0.5967		0.115	0.100	14.6	20.0
Dibutyltin	Ave	0.3589	0.4032		0.112	0.100	12.3	20.0
Monobutyltin	Ave	0.3590	0.4114		0.115	0.100	14.6	20.0
Tripentyltin	Ave	0.4958	0.5354		0.108	0.100	8.0	20.0

Eurofins Calscience LLC
Target Compound Quantitation Report

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT02.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 16-Oct-2019 13:26:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS
Operator ID: ulli Instrument ID: GCMSY
Sublist: chrom-Organotins by Krone*sub2

Method: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m
Limit Group: MSS - Organotins
Last Update: 18-Oct-2019 17:32:02 Calib Date: 07-Oct-2019 11:34:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D

Column 1 : GC/MS AAA Column (0.25 mm) Det: MS SCAN
Process Host: CTX1012

First Level Reviewer: nguyenv Date: 16-Oct-2019 14:16:12

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Tetra-n-propyl tin	205	6.241	6.241	0.000	98	13763	100.0	100.0	
2 Tetra-n-butyltin	291	7.771	7.771	0.000	96	10564	100.0	113.4	
3 Tributyltin	305	8.145	8.145	0.000	100	8212	100.0	114.6	
4 Dibutyltin	319	8.507	8.507	0.000	99	5549	100.0	112.3	
5 Monobutyltin	319	8.849	8.849	0.000	98	5662	100.0	114.6	
$ 6 Tripentyltin	333	9.172	9.172	0.000	98	7368	100.0	108.0	

Reagents:

MS-Otins-Ca3_00002 Amount Added: 1.00 Units: mL

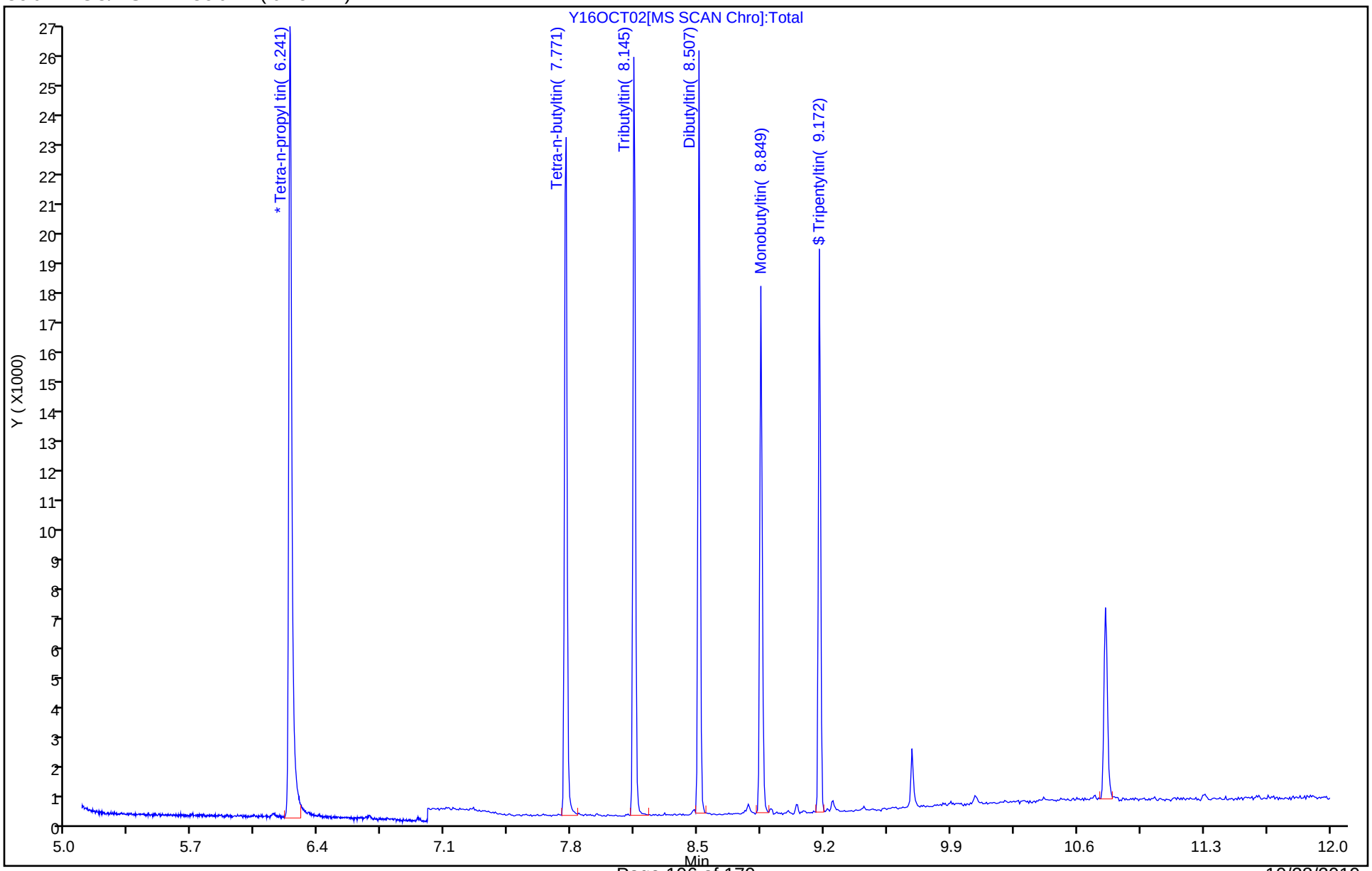
Report Date: 18-Oct-2019 17:32:02 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT02.D

Injection Date:	16-Oct-2019 13:26:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	CCVIS			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Lab Sample ID: ICV 570-28530/7 Calibration Date: 10/25/2019 12:35

Instrument ID: GCMSY Calib Start Date: 10/25/2019 10:53

GC Column: AAA Agilent J&W ID: 0.25(mm) Calib End Date: 10/25/2019 12:05

Lab File ID: Y25OCT14.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Tetrabutyltin	Ave	0.6384	0.6731		0.105	0.100	5.4	20.0
Tributyltin	Ave	0.5247	0.4548		0.0867	0.100	-13.3	20.0
Dibutyltin	Ave	0.3583	0.4023		0.112	0.100	12.3	20.0
Monobutyltin	Ave	0.3746	0.3891		0.104	0.100	3.9	20.0
Tripentyltin	Ave	0.5439	0.5059		0.0930	0.100	-7.0	20.0

Eurofins Calscience LLC
Target Compound Quantitation Report

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT14.D
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 25-Oct-2019 12:35:30 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 570-0007982-007
Operator ID: ULLI Instrument ID: GCMSY
Sublist:

Method: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Organotins by Krone.m
Limit Group: MSS - Organotins
Last Update: 25-Oct-2019 13:23:54 Calib Date: 25-Oct-2019 12:05:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT13.D

Column 1 : GC/MS AAA Column (0.25 mm) Det: MS SCAN
Process Host: CTX1024

First Level Reviewer: nguyenv Date: 25-Oct-2019 13:20:06

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Tetra-n-propyl tin	205	6.267	6.261	0.005	99	23727	100.0	100.0	
2 Tetra-n-butyltin	291	7.798	7.786	0.012	97	15970	100.0	105.4	
3 Tributyltin	305	8.178	8.166	0.012	96	10792	100.0	86.7	
4 Dibutyltin	319	8.540	8.534	0.006	96	9546	100.0	112.3	
5 Monobutyltin	319	8.882	8.870	0.012	96	9233	100.0	103.9	
$ 6 Tripentyltin	333	9.206	9.200	0.006	98	12003	100.0	93.0	

Reagents:

MS-Otins-ICV_00002 Amount Added: 1.00 Units: mL

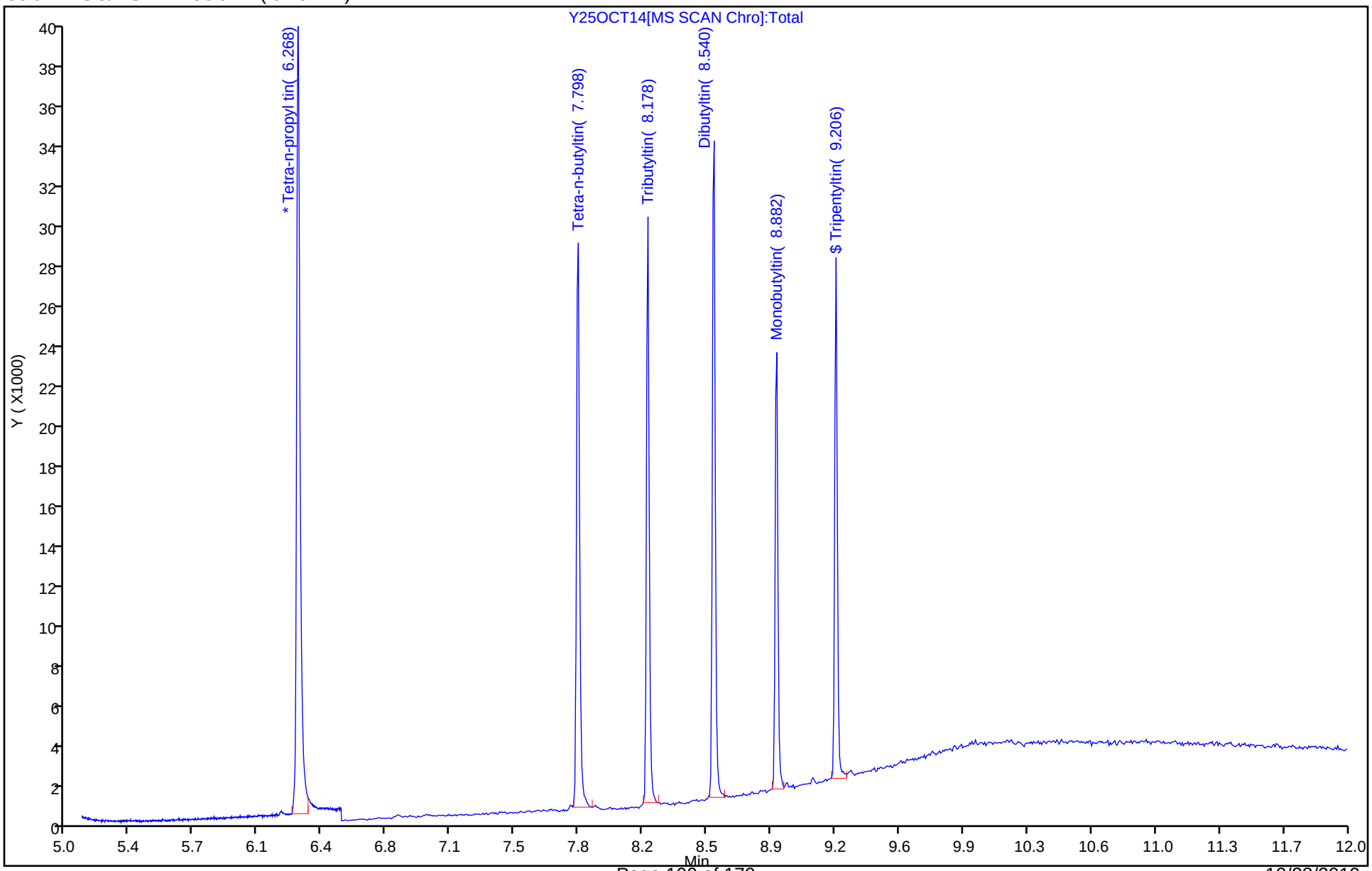
Report Date: 25-Oct-2019 13:23:54 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT14.D

Injection Date:	25-Oct-2019 12:35:30	Instrument ID:	GCMSY	Operator ID:	ULLI
Lims ID:	icv			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Lab Sample ID: CCVIS 570-28601/2 Calibration Date: 10/25/2019 13:19

Instrument ID: GCMSY Calib Start Date: 10/25/2019 10:53

GC Column: AAA Agilent J&W ID: 0.25(mm) Calib End Date: 10/25/2019 12:05

Lab File ID: Y25OCT16.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Tetrabutyltin	Ave	0.6384	0.6838		0.107	0.100	7.1	20.0
Tributyltin	Ave	0.5247	0.5573		0.106	0.100	6.2	20.0
Dibutyltin	Ave	0.3583	0.3823		0.107	0.100	6.7	20.0
Monobutyltin	Ave	0.3746	0.3906		0.104	0.100	4.3	20.0
Tripentyltin	Ave	0.5439	0.5769		0.106	0.100	6.1	20.0

Eurofins Calscience LLC
Target Compound Quantitation Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191025-8011.b\Y25OCT16.D				
Lims ID:	CCVIS				
Client ID:					
Sample Type:	CCVIS				
Inject. Date:	25-Oct-2019 13:19:30	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	ccvis				
Misc. Info.:	570-0008011-002				
Operator ID:	ULLI	Instrument ID:	GCMSY		
Sublist:	chrom-Organotins by Krone*sub2				
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191025-8011.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	25-Oct-2019 15:16:12	Calib Date:	25-Oct-2019 12:05:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT13.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1024				

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
*	1 Tetra-n-propyl tin	205	6.267	6.267	0.000	98	21078	100.0	100.0	
	2 Tetra-n-butyltin	291	7.798	7.798	0.000	98	14413	100.0	107.1	
	3 Tributyltin	305	8.179	8.179	0.000	95	11747	100.0	106.2	
	4 Dibutyltin	319	8.534	8.534	0.000	99	8057	100.0	106.7	
	5 Monobutyltin	319	8.876	8.876	0.000	99	8232	100.0	104.3	
$	6 Tripentyltin	333	9.199	9.199	0.000	98	12159	100.0	106.1	

Reagents:

MS-Otins-Ca3_00003 Amount Added: 1.00 Units: mL

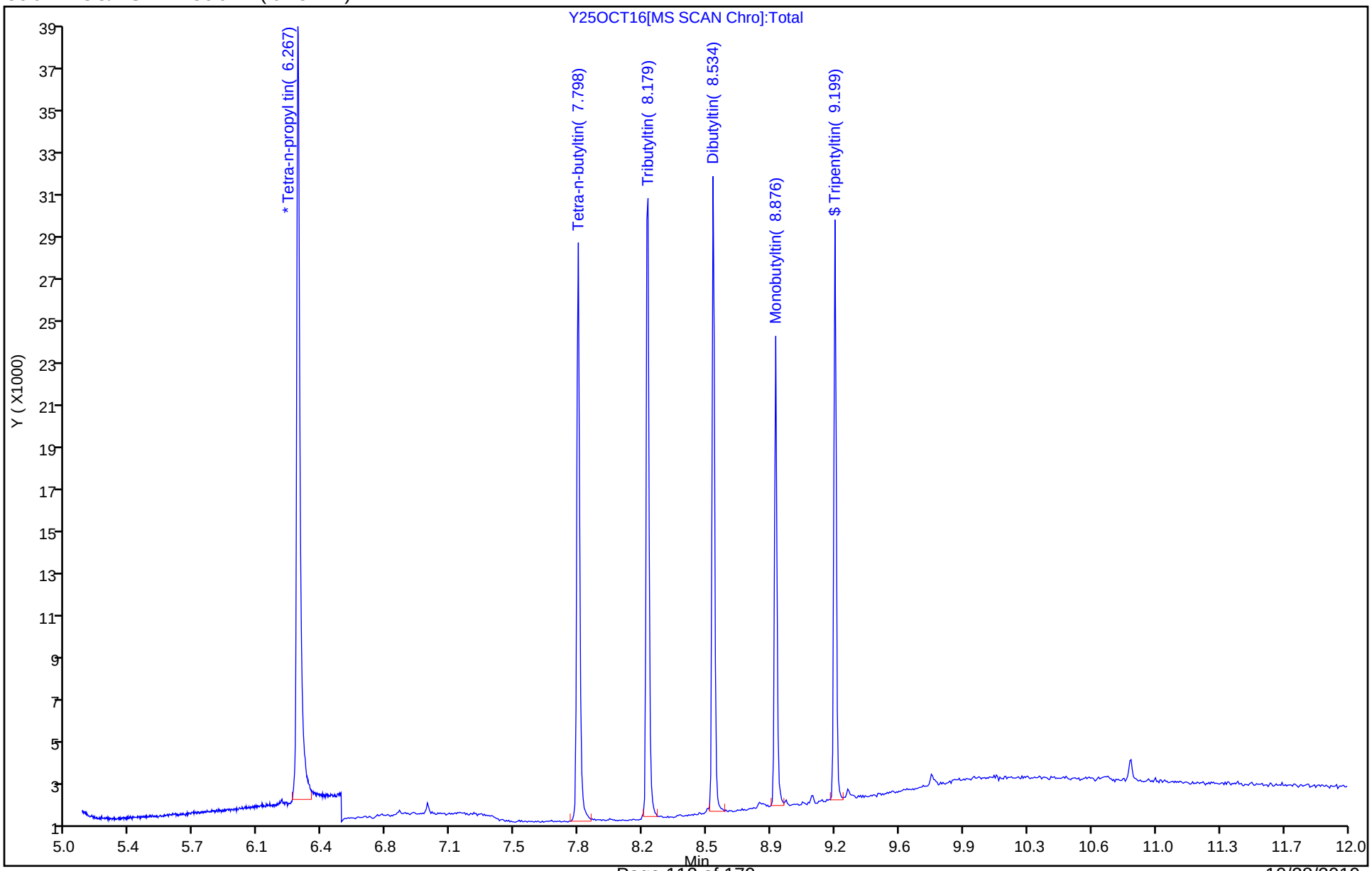
Report Date: 25-Oct-2019 15:16:12 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-8011.b\Y25OCT16.D

Injection Date:	25-Oct-2019 13:19:30	Instrument ID:	GCMSY	Operator ID:	ULLI
Lims ID:	CCVIS			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Target Compound Quantitation Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT01.D				
Lims ID:	DFTPP				
Client ID:					
Sample Type:	DFTPP				
Inject. Date:	07-Oct-2019 10:07:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	DFTPP				
Misc. Info.:	570-0006715-001				
Operator ID:	ulli	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	07-Oct-2019 15:13:28	Calib Date:	07-Oct-2019 11:34:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1010				

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

7 DFTPP

Reagents:

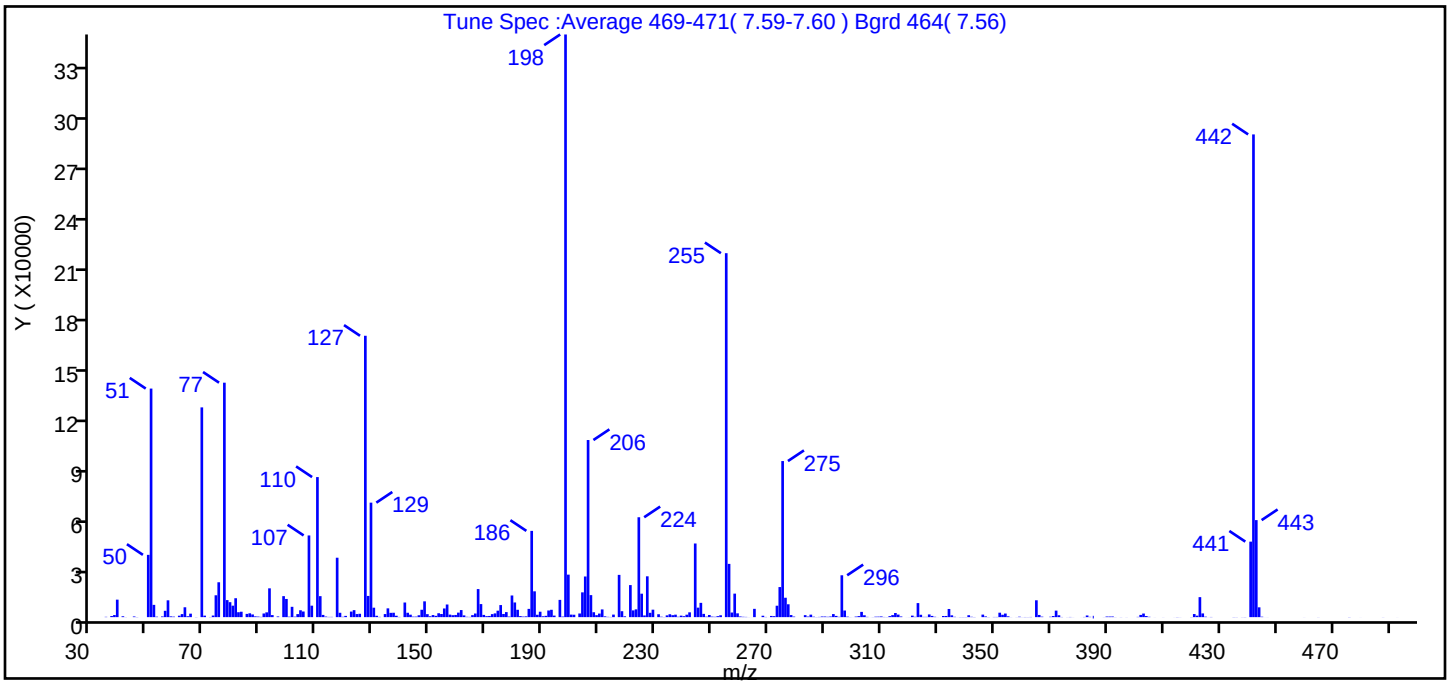
MS-Tune-W_00001 Amount Added: 1.00 Units: mL

MS Tune Report

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT01.D
Injection Date: 07-Oct-2019 10:07:30 Instrument ID: GCMSY
Lims ID: DFTPP
Client ID:
Operator ID: ulli ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Organotins by Krone Limit Group: MSS - Organotins
Tune Method: DFTPP Method 8270

7 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	39.2
68	<2% of mass 69	0.0 (0.0)
69	Present	36.0
70	<2% of mass 69	0.3 (0.7)
127	40-60% of mass 198	48.3
197	<1% of mass 198	0.1
199	5-9% of mass 198	7.3
275	10-30% of mass 198	26.8
365	>1% of mass 198	2.9
441	Present but less than mass 443	13.0 (77.8)
442	>40% of mass 198	82.8
443	17-23% of mass 442	16.7 (20.1)

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT01.D\Organotins by Krone.rslt\spe
Injection Date: 07-Oct-2019 10:07:30
Spectrum: Tune Spec :Average 469-471(7.59-7.60) Bgrd 464(7.56)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 347

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	185	145.00	310	236.00	1169	332.00	679
37.00	670	146.00	1122	237.00	1481	333.00	695
38.00	1250	147.00	4413	238.00	228	334.00	4876
39.00	10452	148.00	9442	239.00	894	335.00	1081
41.00	522	149.00	1785	240.00	565	336.00	201
42.00	52	150.00	531	241.00	1455	337.00	27
45.00	401	151.00	1247	242.00	2870	338.00	82
46.00	85	152.00	781	244.00	44008	339.00	84
50.00	37216	153.00	2333	245.00	5673	340.00	85
51.00	136576	154.00	1875	246.00	8536	341.00	1142
52.00	7337	155.00	5180	247.00	1959	342.00	212
53.00	282	156.00	7554	248.00	303	343.00	92
55.00	418	157.00	1504	249.00	1291	346.00	1518
56.00	3785	158.00	1160	250.00	314	347.00	438
57.00	10056	159.00	1308	251.00	207	348.00	81
58.00	454	160.00	2697	252.00	582	350.00	110
59.00	306	161.00	4230	253.00	1112	351.00	115
61.00	863	162.00	1045	255.00	217472	352.00	2656
62.00	1812	163.00	209	256.00	31824	353.00	1426
63.00	5898	164.00	141	257.00	2752	354.00	2146
64.00	543	165.00	1194	258.00	14049	355.00	486
65.00	2081	166.00	2167	259.00	2276	356.00	41
67.00	73	167.00	16768	260.00	394	358.00	44
69.00	125336	168.00	7803	261.00	206	359.00	257
70.00	892	169.00	1339	262.00	141	360.00	43
72.00	92	170.00	586	263.00	36	361.00	91
73.00	955	171.00	710	264.00	14	362.00	72
74.00	13065	172.00	1799	265.00	4963	363.00	113
75.00	20840	173.00	2231	268.00	837	365.00	10072
77.00	140096	174.00	3860	269.00	121	366.00	1312
78.00	10185	175.00	7214	270.00	11	367.00	296
79.00	8938	176.00	1889	271.00	724	370.00	235
80.00	6857	177.00	3011	272.00	590	371.00	657

Report Date: 07-Oct-2019 15:13:28 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT01.D\Organotins by Krone.rslt\spe
Injection Date: 07-Oct-2019 10:07:30
Spectrum: Tune Spec :Average 469-471(7.59-7.60) Bgrd 464(7.56)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 347

m/z	Y	m/z	Y	m/z	Y	m/z	Y
81.00	11308	178.00	348	273.00	6824	372.00	3892
82.00	2945	179.00	12944	274.00	17976	373.00	1118
83.00	3238	180.00	8767	275.00	93264	374.00	107
85.00	1938	181.00	4401	276.00	11594	376.00	42
86.00	2297	182.00	621	277.00	7690	377.00	111
87.00	1610	183.00	341	278.00	1250	378.00	29
88.00	455	184.00	457	279.00	324	381.00	18
89.00	333	185.00	4939	283.00	1188	382.00	113
90.00	153	186.00	51544	284.00	356	383.00	992
91.00	2180	187.00	15426	285.00	1493	384.00	173
92.00	2860	188.00	1420	286.00	261	385.00	1
93.00	17216	189.00	3246	287.00	80	389.00	43
94.00	1219	190.00	526	288.00	143	390.00	365
96.00	418	191.00	788	289.00	384	391.00	359
98.00	12550	192.00	3981	290.00	368	392.00	386
99.00	10867	193.00	4401	291.00	215	393.00	50
100.00	275	194.00	921	292.00	392	395.00	51
101.00	6169	196.00	10315	293.00	1835	397.00	37
102.00	297	197.00	327	294.00	741	401.00	149
103.00	1810	198.00	348160	295.00	196	402.00	1329
104.00	4108	199.00	25400	296.00	25016	403.00	2152
105.00	3374	200.00	1511	297.00	3952	404.00	646
107.00	48816	201.00	1441	298.00	313	405.00	203
108.00	6855	203.00	2180	299.00	50	407.00	25
110.00	83696	204.00	14810	300.00	17	410.00	31
111.00	12544	205.00	24288	301.00	334	414.00	25
112.00	1335	206.00	105832	302.00	613	415.00	82
113.00	335	207.00	13158	303.00	3147	416.00	36
114.00	142	208.00	2941	304.00	1119	420.00	82
115.00	154	209.00	1185	305.00	166	421.00	1848
117.00	35504	210.00	2132	306.00	14	422.00	881
118.00	2606	211.00	4617	307.00	58	423.00	11949
119.00	199	212.00	471	308.00	267	424.00	2225
120.00	753	213.00	173	309.00	308	425.00	279

Report Date: 07-Oct-2019 15:13:28 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT01.D\Organotins by Krone.rslt\spe
Injection Date: 07-Oct-2019 10:07:30
Spectrum: Tune Spec :Average 469-471(7.59-7.60) Bgrd 464(7.56)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 347

m/z	Y	m/z	Y	m/z	Y	m/z	Y
122.00	3328	214.00	110	310.00	411	426.00	21
123.00	4178	215.00	1523	311.00	116	427.00	107
124.00	1842	217.00	25256	312.00	73	435.00	78
125.00	2006	218.00	3548	313.00	607	436.00	63
127.00	168128	219.00	494	314.00	1221	438.00	51
128.00	12676	221.00	19152	315.00	2470	439.00	75
129.00	68416	222.00	4036	316.00	1518	441.00	45120
130.00	5644	223.00	4649	317.00	390	442.00	288448
131.00	822	224.00	59688	319.00	18	443.00	57976
132.00	156	225.00	14013	320.00	41	444.00	5865
134.00	1839	226.00	1012	321.00	900	445.00	263
135.00	5254	227.00	24400	322.00	195	446.00	17
136.00	2572	228.00	2593	323.00	8398	447.00	26
137.00	2626	229.00	4460	324.00	1417	460.00	24
138.00	838	230.00	19	325.00	163	465.00	42
139.00	126	231.00	1731	326.00	167	476.00	78
141.00	8744	232.00	255	327.00	1623	480.00	18
142.00	2616	233.00	79	328.00	736	488.00	43
143.00	1469	234.00	1056	329.00	219	493.00	18
144.00	298	235.00	1723	330.00	24		

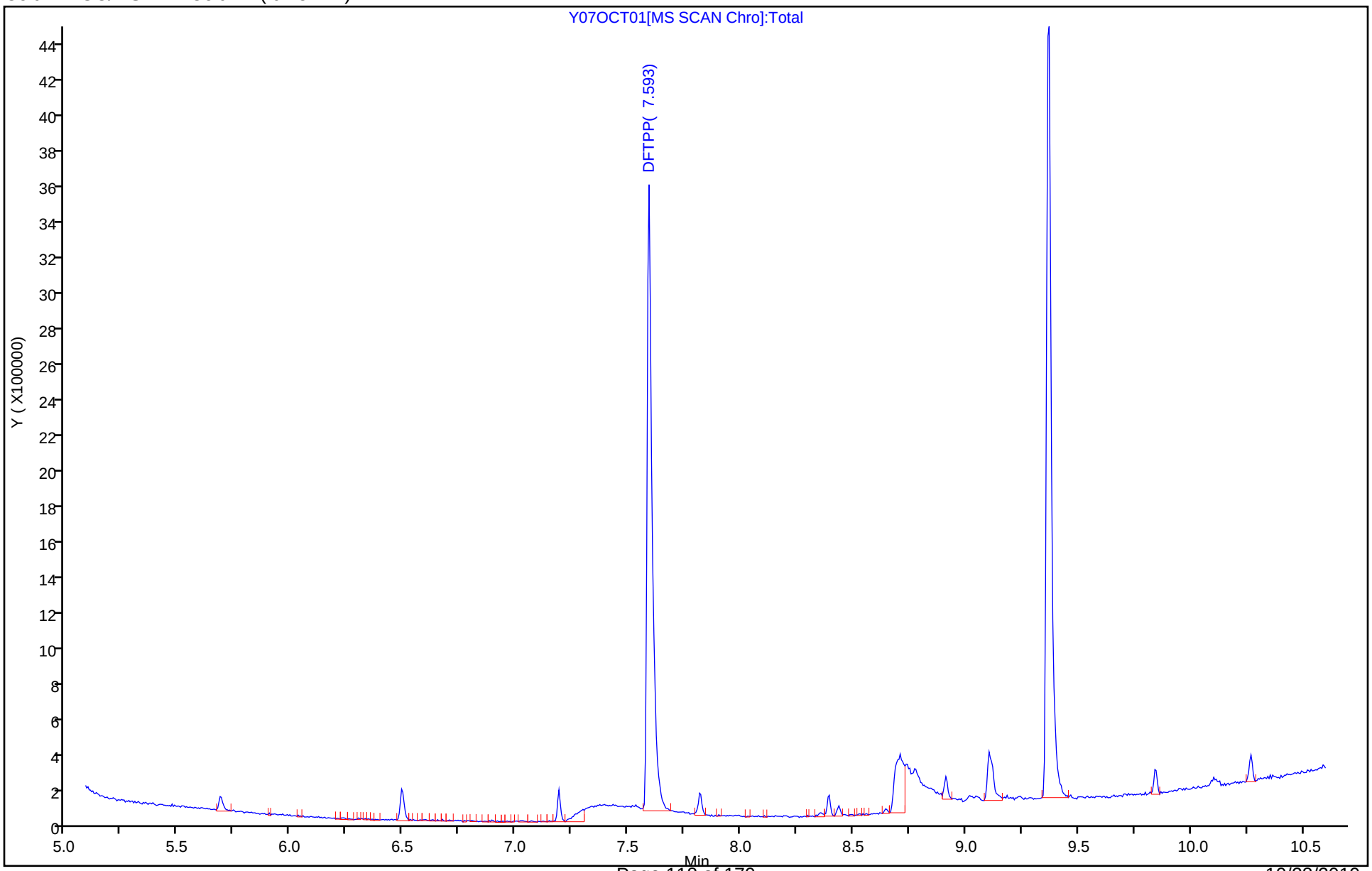
Report Date: 07-Oct-2019 15:13:28 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT01.D

Injection Date:	07-Oct-2019 10:07:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	DFTPP			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Target Compound Quantitation Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT01.D				
Lims ID:	DFTPP				
Client ID:					
Sample Type:	DFTPP				
Inject. Date:	16-Oct-2019 12:57:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	DFTPP				
Operator ID:	ulli	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	18-Oct-2019 17:32:00	Calib Date:	07-Oct-2019 11:34:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1012				
First Level Reviewer: nguyenv		Date:	16-Oct-2019 14:16:35		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

7 DFTPP

Reagents:

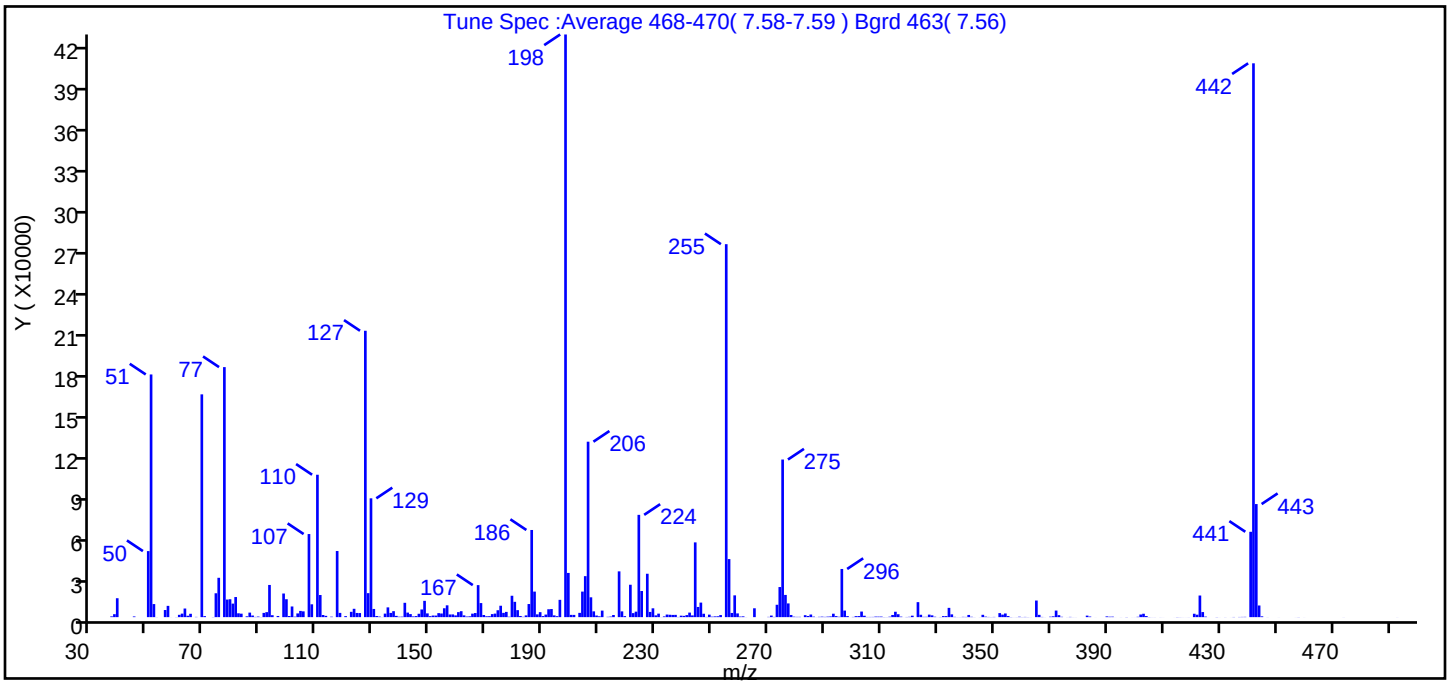
MS-Tune-W_00001 Amount Added: 1.00 Units: mL

MS Tune Report

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT01.D
Injection Date: 16-Oct-2019 12:57:30 Instrument ID: GCMSY
Lims ID: DFTPP
Client ID:
Operator ID: ulli ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Organotins by Krone Limit Group: MSS - Organotins
Tune Method: DFTPP Method 8270

7 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	41.7
68	<2% of mass 69	0.0 (0.0)
69	Present	38.2
70	<2% of mass 69	0.2 (0.5)
127	40-60% of mass 198	49.1
197	<1% of mass 198	0.0
199	5-9% of mass 198	7.6
275	10-30% of mass 198	27.0
365	>1% of mass 198	2.8
441	Present but less than mass 443	14.6 (75.5)
442	>40% of mass 198	95.1
443	17-23% of mass 442	19.4 (20.4)

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT01.D\Organotins by Krone.rslt\spe
Injection Date: 16-Oct-2019 12:57:30
Spectrum: Tune Spec :Average 468-470(7.58-7.59) Bgrd 463(7.56)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 348

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	552	151.00	1163	244.00	54096	340.00	155
38.00	2132	152.00	1125	245.00	7374	341.00	1589
39.00	13694	153.00	2902	246.00	10523	342.00	253
45.00	507	154.00	2643	247.00	2465	343.00	50
50.00	47792	155.00	6426	248.00	164	345.00	47
51.00	175616	156.00	8550	249.00	1812	346.00	1690
52.00	9457	157.00	1932	250.00	351	347.00	378
53.00	57	158.00	1972	251.00	539	348.00	157
56.00	5150	159.00	1263	252.00	612	349.00	77
57.00	8161	160.00	3622	253.00	1503	350.00	158
58.00	27	161.00	4307	255.00	269888	352.00	2922
60.00	77	162.00	1281	256.00	42016	353.00	1836
61.00	1682	163.00	447	257.00	3033	354.00	2646
62.00	2542	164.00	589	258.00	15766	355.00	787
63.00	6239	165.00	2531	259.00	2709	356.00	104
64.00	1019	166.00	2960	260.00	423	357.00	30
65.00	2430	167.00	23176	261.00	569	358.00	58
67.00	173	168.00	10177	262.00	45	359.00	295
69.00	161216	169.00	1547	265.00	6412	360.00	81
70.00	738	170.00	636	270.00	188	361.00	163
73.00	95	171.00	707	271.00	1142	362.00	77
74.00	17280	172.00	2198	272.00	160	363.00	40
75.00	28472	173.00	2547	273.00	8954	365.00	12015
77.00	180928	174.00	5001	274.00	21784	366.00	1664
78.00	12721	175.00	8250	275.00	114048	367.00	153
79.00	12950	176.00	3098	276.00	16075	368.00	31
80.00	9790	177.00	3802	277.00	9934	370.00	343
81.00	14547	178.00	310	278.00	1562	371.00	582
82.00	2779	179.00	15478	279.00	332	372.00	4755
83.00	2517	180.00	11082	280.00	206	373.00	1419
85.00	594	181.00	5063	281.00	216	374.00	252
86.00	3278	182.00	847	283.00	1410	376.00	38
87.00	1173	183.00	224	284.00	837	377.00	177

Report Date: 18-Oct-2019 17:32:00 Chrom Revision: 2.3 17-Oct-2019 22:00:42
Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT01.D\Organotins by Krone.rslt\spe
Injection Date: 16-Oct-2019 12:57:30
Spectrum: Tune Spec :Average 468-470(7.58-7.59) Bgrd 463(7.56)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 348

m/z	Y	m/z	Y	m/z	Y	m/z	Y
88.00	164	184.00	1260	285.00	1895	378.00	40
89.00	420	185.00	9485	286.00	365	379.00	32
90.00	78	186.00	63072	287.00	44	383.00	1092
91.00	3070	187.00	18480	288.00	235	384.00	426
92.00	3612	188.00	2016	289.00	353	386.00	18
93.00	23296	189.00	3607	290.00	199	390.00	544
94.00	1393	190.00	769	291.00	373	391.00	313
96.00	843	191.00	1860	292.00	513	392.00	365
98.00	17104	192.00	5715	293.00	2483	393.00	20
99.00	12965	193.00	5860	294.00	733	395.00	32
100.00	812	194.00	1273	295.00	278	397.00	102
101.00	7719	195.00	703	296.00	34856	399.00	21
102.00	350	196.00	12527	297.00	4747	400.00	24
103.00	2700	198.00	421632	298.00	751	401.00	240
104.00	4501	199.00	31992	299.00	18	402.00	1903
105.00	4197	200.00	1636	300.00	158	403.00	2458
107.00	60128	201.00	1617	301.00	712	404.00	764
108.00	9296	203.00	3090	302.00	760	405.00	95
110.00	103048	204.00	18488	303.00	4049	406.00	36
111.00	16010	205.00	29664	304.00	1010	407.00	42
112.00	1545	206.00	126960	305.00	147	409.00	40
113.00	932	207.00	14353	306.00	154	410.00	18
115.00	341	208.00	4190	307.00	174	414.00	18
117.00	47848	209.00	1163	308.00	395	415.00	100
118.00	3078	210.00	602	309.00	379	416.00	56
120.00	731	211.00	4729	310.00	396	417.00	27
122.00	3850	213.00	231	311.00	99	418.00	21
123.00	6044	214.00	410	312.00	70	419.00	43
124.00	3030	215.00	1550	313.00	327	421.00	2449
125.00	2956	217.00	33128	314.00	1567	422.00	1767
127.00	207232	218.00	4183	315.00	3906	423.00	15646
128.00	17360	219.00	736	316.00	2101	424.00	3672
129.00	85984	221.00	23448	317.00	369	425.00	390
130.00	5928	222.00	2906	318.00	17	426.00	18

Report Date: 18-Oct-2019 17:32:00 Chrom Revision: 2.3 17-Oct-2019 22:00:42
Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT01.D\Organotins by Krone.rslt\spe
Injection Date: 16-Oct-2019 12:57:30
Spectrum: Tune Spec :Average 468-470(7.58-7.59) Bgrd 463(7.56)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 348

m/z	Y	m/z	Y	m/z	Y	m/z	Y
131.00	810	223.00	3968	319.00	127	429.00	96
132.00	417	224.00	74024	320.00	247	430.00	17
133.00	58	225.00	18912	321.00	1057	432.00	48
134.00	2548	227.00	31400	323.00	10850	434.00	19
135.00	7069	228.00	3772	324.00	1720	435.00	123
136.00	3069	229.00	6392	325.00	214	437.00	136
137.00	4320	230.00	1278	326.00	237	438.00	171
138.00	925	231.00	2532	327.00	1825	439.00	209
139.00	306	232.00	52	328.00	1295	441.00	61768
140.00	354	233.00	528	329.00	301	442.00	400768
141.00	10378	234.00	1873	330.00	31	443.00	81824
142.00	3287	235.00	1719	331.00	124	444.00	8437
143.00	2209	236.00	1611	332.00	738	445.00	570
144.00	520	237.00	1651	333.00	737	447.00	37
145.00	762	238.00	133	334.00	6713	451.00	22
146.00	2440	239.00	1062	335.00	2011	457.00	24
147.00	5555	240.00	927	336.00	209	458.00	75
148.00	11798	241.00	1481	337.00	61	460.00	21
149.00	2715	242.00	3285	338.00	63	474.00	34
150.00	723	243.00	1259	339.00	208	493.00	30

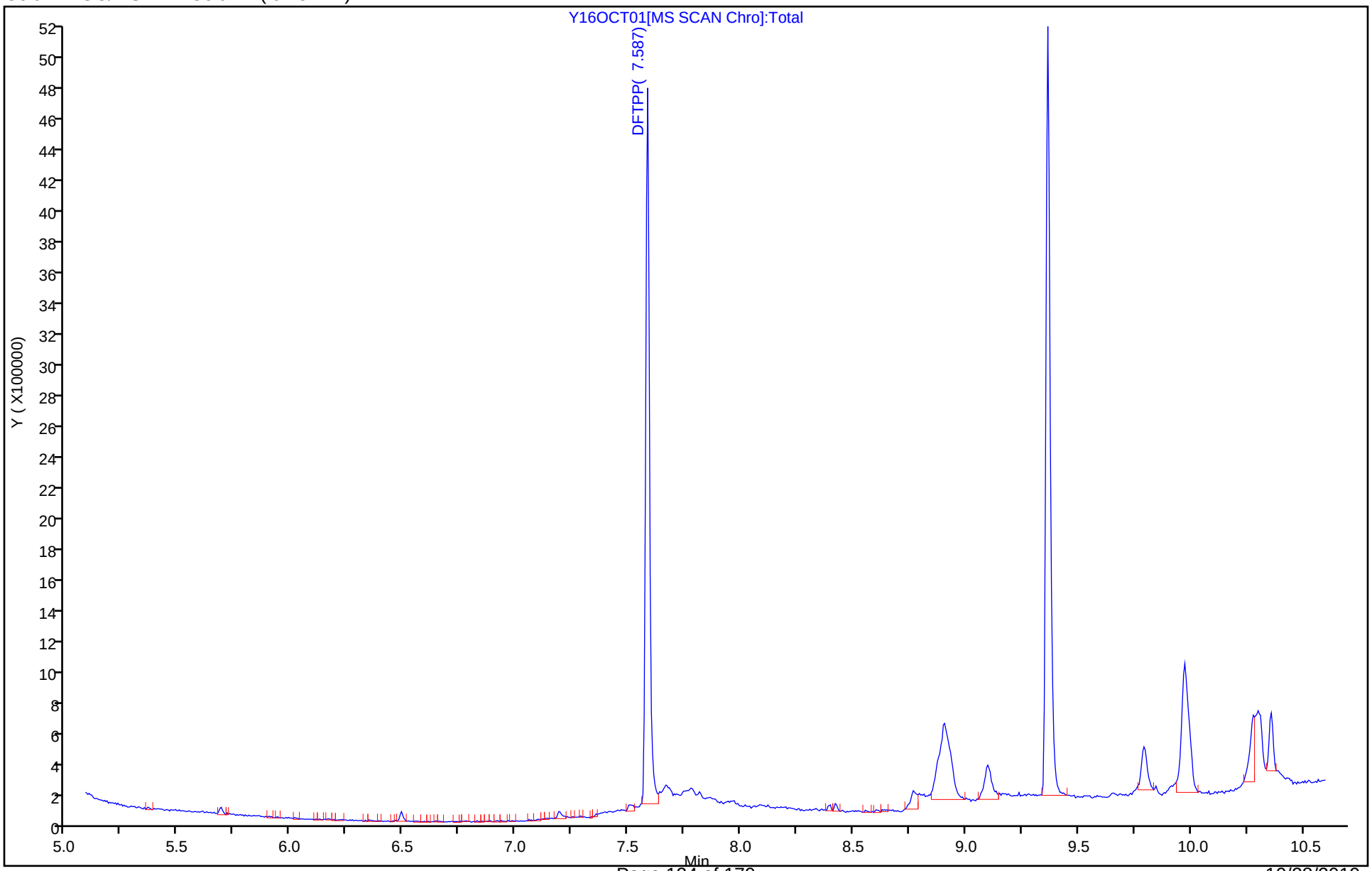
Report Date: 18-Oct-2019 17:32:01 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT01.D

Injection Date:	16-Oct-2019 12:57:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	DFTPP			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Target Compound Quantitation Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT02.D				
Lims ID:	DFTPP				
Client ID:					
Sample Type:	DFTPP				
Inject. Date:	25-Oct-2019 09:12:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	DFTPP				
Misc. Info.:	570-0007982-001				
Operator ID:	ULLI	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	25-Oct-2019 13:23:50	Calib Date:	25-Oct-2019 12:05:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT13.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1024				

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

7 DFTPP

Reagents:

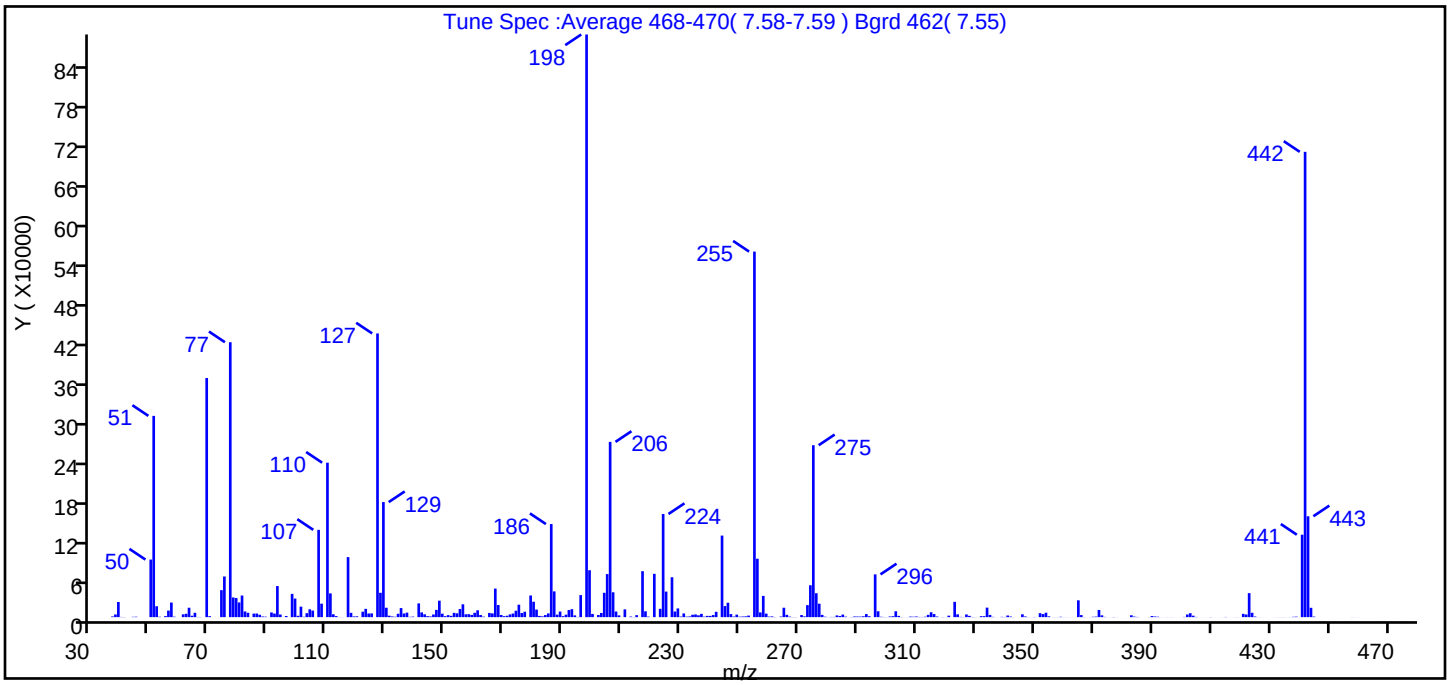
MS-Tune-W_00001 Amount Added: 1.00 Units: mL

MS Tune Report

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT02.D
Injection Date: 25-Oct-2019 09:12:30 Instrument ID: GCMSY
Lims ID: DFTPP
Client ID:
Operator ID: ULLI ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Organotins by Krone Limit Group: MSS - Organotins
Tune Method: DFTPP Method 8270

7 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	34.5
68	<2% of mass 69	0.0 (0.0)
69	Present	41.0
70	<2% of mass 69	0.2 (0.4)
127	40-60% of mass 198	48.7
197	<1% of mass 198	0.0
199	5-9% of mass 198	8.1
275	10-30% of mass 198	29.5
365	>1% of mass 198	2.9
441	Present but less than mass 443	14.1 (81.7)
442	>40% of mass 198	79.9
443	17-23% of mass 442	17.3 (21.7)

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT02.D\Organotins by Krone.rslt\spe
Injection Date: 25-Oct-2019 09:12:30
Spectrum: Tune Spec :Average 468-470(7.58-7.59) Bgrd 462(7.55)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 368

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	1072	152.00	1986	256.00	89144	356.00	68
38.00	4095	153.00	6548	257.00	7202	357.00	128
39.00	23168	154.00	5851	258.00	32448	358.00	136
40.00	315	155.00	12414	259.00	5374	359.00	556
41.00	222	156.00	19600	260.00	862	360.00	122
44.00	477	157.00	4340	261.00	1119	361.00	98
45.00	666	158.00	4534	262.00	214	362.00	60
50.00	87872	159.00	3391	264.00	892	363.00	87
51.00	307200	160.00	6637	265.00	14354	365.00	25672
52.00	16648	161.00	10464	266.00	3538	366.00	3100
53.00	613	162.00	3237	267.00	840	367.00	202
55.00	1589	163.00	778	268.00	204	368.00	24
56.00	10013	165.00	6412	269.00	193	369.00	113
57.00	22264	166.00	5719	271.00	3164	370.00	548
58.00	727	167.00	43592	272.00	1141	371.00	805
61.00	4265	168.00	18520	273.00	18328	372.00	10952
62.00	5163	169.00	3308	274.00	48656	373.00	2754
63.00	14363	170.00	1476	275.00	262400	374.00	374
64.00	2167	171.00	2138	276.00	36512	375.00	41
65.00	6648	172.00	4205	277.00	20528	376.00	55
66.00	279	173.00	5479	278.00	3442	377.00	235
67.00	176	174.00	9770	279.00	667	378.00	93
69.00	364992	175.00	19008	280.00	126	381.00	29
70.00	1485	176.00	6290	281.00	321	383.00	2846
74.00	41216	177.00	8291	282.00	342	384.00	813
75.00	62048	179.00	33064	283.00	2641	385.00	340
77.00	419648	180.00	23520	284.00	1793	386.00	20
78.00	30056	181.00	11517	285.00	3922	389.00	115
79.00	29208	182.00	1894	286.00	772	390.00	1690
80.00	22432	183.00	1223	287.00	84	391.00	966
81.00	33000	184.00	3169	288.00	244	392.00	640
82.00	8646	185.00	5662	289.00	1013	393.00	95
83.00	6656	186.00	142080	290.00	924	394.00	17

Report Date: 25-Oct-2019 13:23:50 Chrom Revision: 2.3 17-Oct-2019 22:00:42
Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT02.D\Organotins by Krone.rslt\spe
Injection Date: 25-Oct-2019 09:12:30
Spectrum: Tune Spec :Average 468-470(7.58-7.59) Bgrd 462(7.55)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 368

m/z	Y	m/z	Y	m/z	Y	m/z	Y
85.00	5378	187.00	39312	291.00	850	395.00	114
86.00	5513	188.00	3813	292.00	1301	396.00	94
87.00	3651	189.00	8521	293.00	4647	397.00	85
88.00	986	190.00	1507	294.00	1394	399.00	40
89.00	731	191.00	3772	296.00	65280	400.00	28
90.00	62	192.00	10863	297.00	8981	401.00	348
91.00	7174	193.00	12122	298.00	587	402.00	4041
92.00	5486	194.00	2683	299.00	271	403.00	6005
93.00	47464	195.00	302	300.00	102	404.00	2212
94.00	4001	196.00	33656	301.00	975	405.00	359
96.00	1748	198.00	889344	302.00	1419	406.00	29
98.00	35528	199.00	71616	303.00	8977	407.00	33
99.00	28360	200.00	4925	304.00	1939	408.00	67
100.00	2071	202.00	3299	305.00	235	409.00	27
101.00	16013	203.00	6405	306.00	74	410.00	199
102.00	593	204.00	37176	307.00	119	411.00	31
103.00	6033	205.00	65736	308.00	861	413.00	25
104.00	11931	206.00	267520	309.00	635	414.00	81
105.00	9997	207.00	37944	310.00	990	415.00	292
107.00	133248	208.00	8577	311.00	332	416.00	42
108.00	20576	209.00	2678	312.00	286	417.00	32
110.00	235776	211.00	11891	313.00	687	418.00	72
111.00	36256	213.00	893	314.00	3499	419.00	149
112.00	4356	214.00	238	315.00	7489	420.00	54
113.00	1546	215.00	3027	316.00	4688	421.00	5040
114.00	114	217.00	70120	317.00	942	422.00	4024
115.00	99	218.00	8889	319.00	207	423.00	36664
117.00	91640	219.00	791	320.00	92	424.00	6632
118.00	6592	221.00	66112	321.00	2254	425.00	936
119.00	1109	223.00	12704	323.00	23352	426.00	77
120.00	1264	224.00	157440	324.00	4296	427.00	74
122.00	8287	225.00	38976	325.00	398	428.00	24
123.00	12631	227.00	60904	326.00	262	429.00	46
124.00	5525	228.00	8569	327.00	4093	431.00	17

Report Date: 25-Oct-2019 13:23:50 Chrom Revision: 2.3 17-Oct-2019 22:00:42
Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT02.D\Organotins by Krone.rslt\spe
Injection Date: 25-Oct-2019 09:12:30
Spectrum: Tune Spec :Average 468-470(7.58-7.59) Bgrd 462(7.55)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 368

m/z	Y	m/z	Y	m/z	Y	m/z	Y
125.00	5754	229.00	13304	328.00	1987	432.00	53
127.00	433024	230.00	867	329.00	311	433.00	106
128.00	37144	231.00	5635	330.00	158	434.00	136
129.00	175616	232.00	772	331.00	86	435.00	114
130.00	14348	233.00	1129	332.00	1509	436.00	42
131.00	2228	234.00	3678	333.00	1483	437.00	130
132.00	1065	235.00	4145	334.00	14515	438.00	538
133.00	597	236.00	2830	335.00	3401	439.00	752
134.00	5157	237.00	5028	336.00	436	441.00	125840
135.00	13829	238.00	753	337.00	58	442.00	710208
136.00	5563	239.00	1959	339.00	437	443.00	153984
137.00	6868	240.00	1881	340.00	261	444.00	14272
138.00	470	241.00	3175	341.00	2495	445.00	843
139.00	804	242.00	8133	342.00	912	446.00	22
141.00	20968	244.00	124488	343.00	120	455.00	25
142.00	7220	245.00	16872	345.00	23	458.00	121
143.00	4300	246.00	21960	346.00	4325	459.00	30
144.00	1524	247.00	4692	347.00	1016	460.00	55
145.00	1050	248.00	913	348.00	158	461.00	18
146.00	4124	249.00	3844	349.00	24	467.00	19
147.00	11101	250.00	711	350.00	263	468.00	24
148.00	25152	251.00	976	352.00	6030	469.00	31
149.00	5277	252.00	1230	353.00	4676	470.00	25
150.00	1485	253.00	2367	354.00	6743	476.00	28
151.00	3058	255.00	557952	355.00	1212	477.00	19

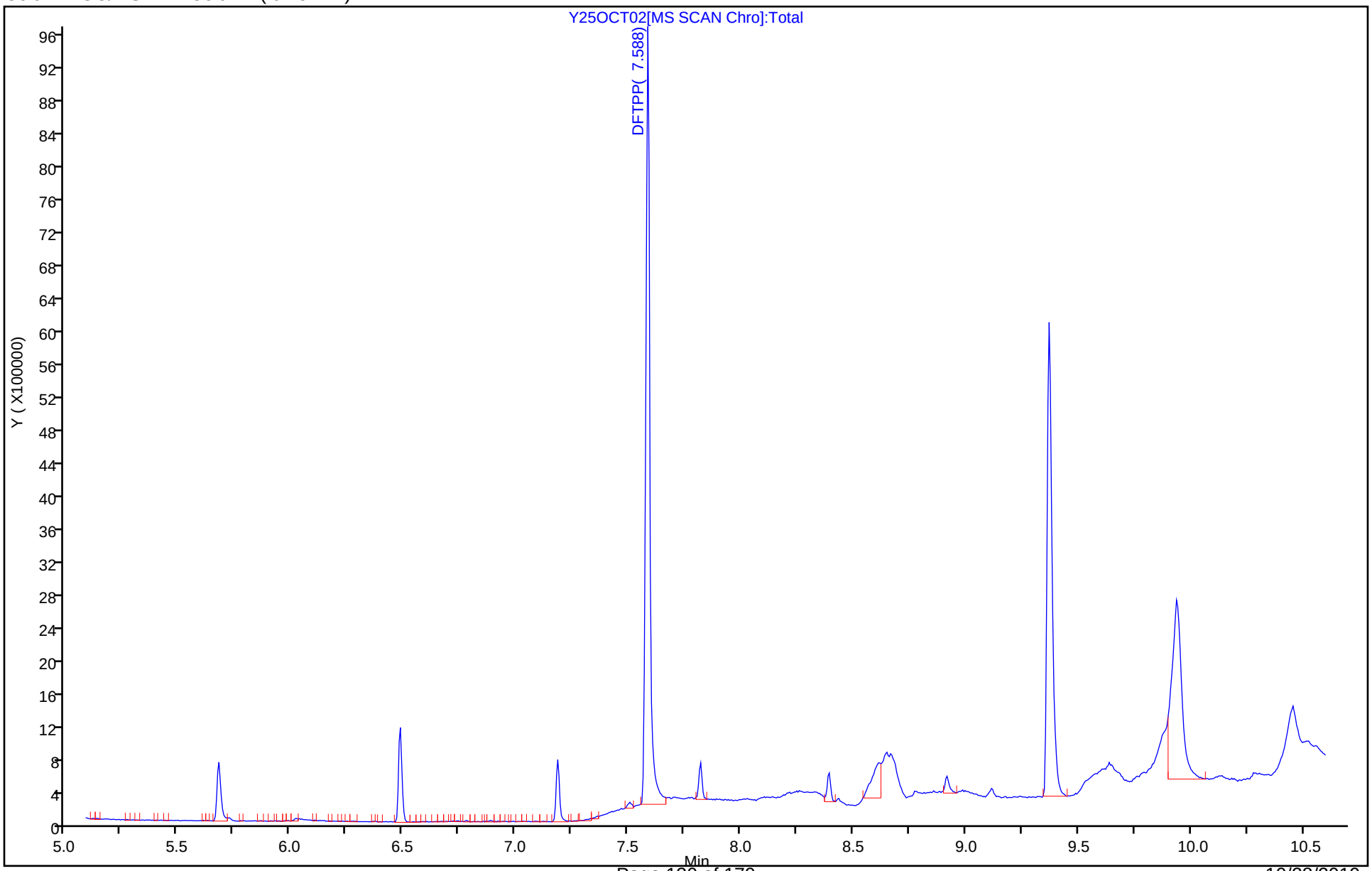
Report Date: 25-Oct-2019 13:23:51 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT02.D

Injection Date:	25-Oct-2019 09:12:30	Instrument ID:	GCMSY	Operator ID:	ULLI
Lims ID:	DFTPP			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Target Compound Quantitation Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191025-8011.b\Y25OCT15.D				
Lims ID:	DFTPP				
Client ID:					
Sample Type:	DFTPP				
Inject. Date:	25-Oct-2019 12:59:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	DFTPP				
Misc. Info.:	570-0008011-001				
Operator ID:	ULLI	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191025-8011.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	25-Oct-2019 15:16:09	Calib Date:	25-Oct-2019 12:05:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT13.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1024				
First Level Reviewer: nguyenv		Date:	25-Oct-2019 13:23:38		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

7 DFTPP

Reagents:

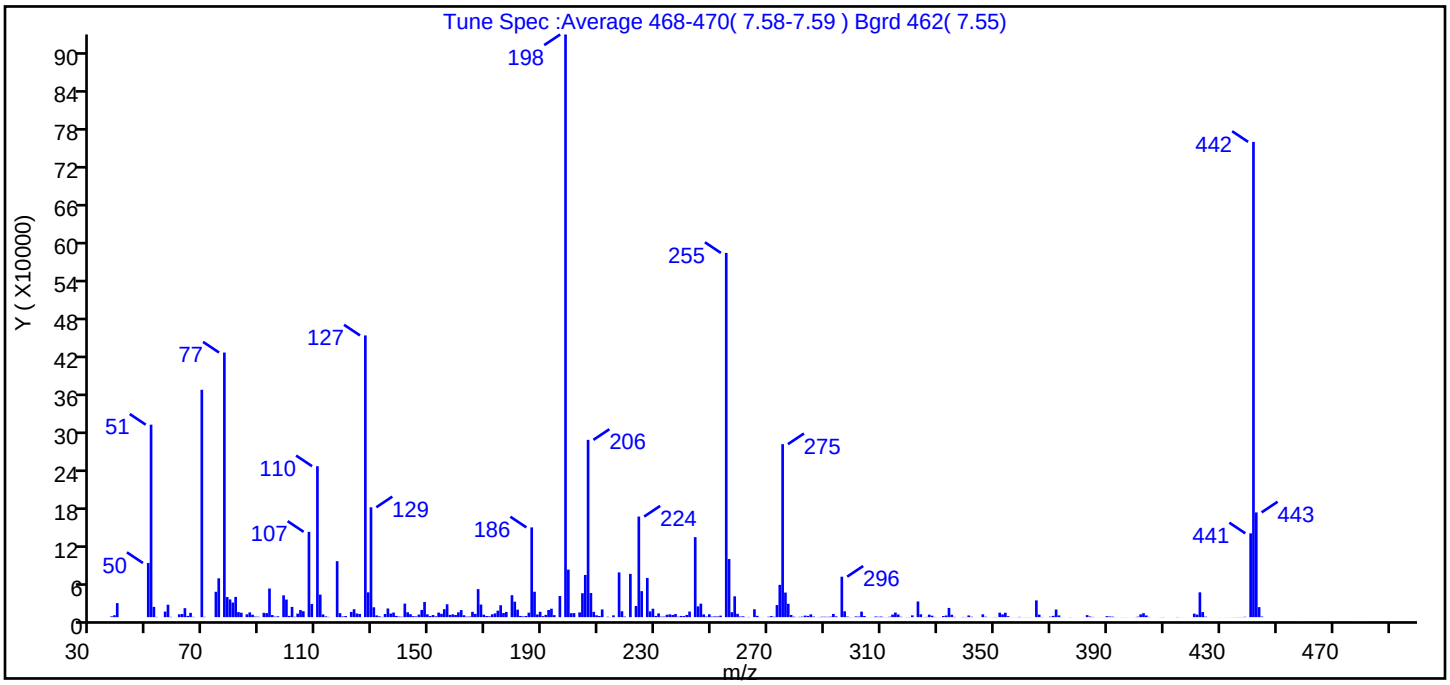
MS-Tune-W_00001 Amount Added: 1.00 Units: mL

MS Tune Report

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-8011.b\Y25OCT15.D
Injection Date: 25-Oct-2019 12:59:30 Instrument ID: GCMSY
Lims ID: DFTPP
Client ID:
Operator ID: ULLI ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Organotins by Krone Limit Group: MSS - Organotins
Tune Method: DFTPP Method 8270

7 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	33.0
68	<2% of mass 69	0.0 (0.0)
69	Present	39.0
70	<2% of mass 69	0.1 (0.1)
127	40-60% of mass 198	48.3
197	<1% of mass 198	0.0
199	5-9% of mass 198	8.2
275	10-30% of mass 198	29.7
365	>1% of mass 198	2.9
441	Present but less than mass 443	14.4 (80.0)
442	>40% of mass 198	81.6
443	17-23% of mass 442	18.0 (22.0)

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-8011.b\Y25OCT15.D\Organotins by Krone.rslt\spe
Injection Date: 25-Oct-2019 12:59:30
Spectrum: Tune Spec :Average 468-470(7.58-7.59) Bgrd 462(7.55)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 360

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	1248	154.00	5295	255.00	576832	351.00	154
38.00	2962	155.00	12622	256.00	92016	352.00	7093
39.00	22208	156.00	20424	257.00	7802	353.00	4343
40.00	11	157.00	3593	258.00	32952	354.00	6953
50.00	85728	158.00	4463	259.00	5292	355.00	1489
51.00	304832	159.00	3363	260.00	1023	356.00	84
52.00	16252	160.00	7601	261.00	1309	357.00	84
53.00	405	161.00	11210	262.00	95	358.00	139
56.00	8831	162.00	2988	263.00	383	359.00	462
57.00	19688	163.00	797	265.00	12497	360.00	114
58.00	438	164.00	988	266.00	2082	361.00	143
60.00	113	165.00	8454	267.00	119	362.00	145
61.00	4470	166.00	5160	268.00	64	363.00	163
62.00	4934	167.00	44360	270.00	674	365.00	26560
63.00	14239	168.00	19968	271.00	1669	366.00	3947
64.00	1974	169.00	3916	272.00	600	367.00	170
65.00	6757	170.00	1781	273.00	19112	368.00	20
66.00	501	171.00	1327	274.00	51128	369.00	57
69.00	360064	172.00	4419	275.00	273984	370.00	812
70.00	491	173.00	5878	276.00	38904	371.00	2028
74.00	40184	174.00	10229	277.00	21144	372.00	12120
75.00	61496	175.00	18824	278.00	3499	373.00	2763
77.00	419072	176.00	6485	279.00	807	374.00	132
78.00	31800	177.00	8244	280.00	146	375.00	59
79.00	28080	179.00	34768	281.00	521	377.00	225
80.00	23160	180.00	24448	282.00	810	378.00	59
81.00	32072	181.00	11841	283.00	2466	380.00	17
82.00	7983	182.00	1915	284.00	2003	382.00	23
83.00	6969	183.00	1216	285.00	4460	383.00	3187
85.00	4496	184.00	1883	286.00	932	384.00	1072
86.00	7539	185.00	7078	287.00	108	385.00	380
87.00	3799	186.00	142144	288.00	291	386.00	45
88.00	876	187.00	40192	289.00	681	387.00	59

Report Date: 25-Oct-2019 15:16:09 Chrom Revision: 2.3 17-Oct-2019 22:00:42
Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-8011.b\Y25OCT15.D\Organotins by Krone.rslt\spe
Injection Date: 25-Oct-2019 12:59:30
Spectrum: Tune Spec :Average 468-470(7.58-7.59) Bgrd 462(7.55)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 360

m/z	Y	m/z	Y	m/z	Y	m/z	Y
89.00	722	188.00	4205	290.00	612	388.00	66
91.00	6856	189.00	8513	291.00	509	390.00	1595
92.00	6328	190.00	1563	292.00	823	391.00	1066
93.00	45320	191.00	3573	293.00	5112	392.00	858
94.00	3242	192.00	11336	294.00	1260	393.00	113
95.00	822	193.00	13379	296.00	64056	395.00	90
96.00	1371	194.00	3162	297.00	9236	396.00	116
98.00	34528	196.00	33456	298.00	941	397.00	131
99.00	27832	198.00	922816	299.00	238	398.00	21
100.00	1970	199.00	75256	300.00	84	400.00	130
101.00	16211	200.00	6229	301.00	1114	401.00	746
102.00	595	201.00	6377	302.00	912	402.00	4368
103.00	5565	203.00	7548	303.00	8698	403.00	6212
104.00	11236	204.00	37912	304.00	1831	404.00	2604
105.00	9325	205.00	66816	305.00	68	405.00	363
107.00	135104	206.00	280768	306.00	114	407.00	16
108.00	20888	207.00	38248	307.00	108	408.00	45
110.00	239040	208.00	8419	308.00	1042	409.00	139
111.00	35720	209.00	2918	309.00	696	410.00	259
112.00	4269	210.00	1830	310.00	930	413.00	56
113.00	1238	211.00	12221	311.00	205	414.00	27
114.00	398	213.00	640	312.00	140	415.00	288
117.00	88616	214.00	137	313.00	751	416.00	87
118.00	6268	215.00	2839	314.00	4066	417.00	66
119.00	1015	217.00	70840	315.00	7292	419.00	69
120.00	1784	218.00	9361	316.00	4222	420.00	39
122.00	8258	219.00	902	317.00	653	421.00	5515
123.00	12545	221.00	68504	318.00	26	422.00	4040
124.00	5745	223.00	17688	319.00	229	423.00	39280
125.00	5079	224.00	159296	320.00	191	424.00	8039
127.00	446144	225.00	41224	321.00	2794	425.00	809
128.00	39296	227.00	62064	323.00	24808	427.00	50
129.00	174016	228.00	9114	324.00	4543	430.00	107
130.00	15610	229.00	13331	325.00	177	432.00	74

Report Date: 25-Oct-2019 15:16:09 Chrom Revision: 2.3 17-Oct-2019 22:00:42
Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-8011.b\Y25OCT15.D\Organotins by Krone.rslt\spe
Injection Date: 25-Oct-2019 12:59:30
Spectrum: Tune Spec :Average 468-470(7.58-7.59) Bgrd 462(7.55)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 360

m/z	Y	m/z	Y	m/z	Y	m/z	Y
131.00	2738	230.00	1839	326.00	407	433.00	90
132.00	1327	231.00	5873	327.00	3985	434.00	42
133.00	363	232.00	859	328.00	2307	435.00	166
134.00	4960	233.00	952	329.00	335	436.00	153
135.00	13719	234.00	3800	330.00	98	437.00	217
136.00	5678	235.00	4443	331.00	106	438.00	253
137.00	7268	236.00	3390	332.00	1738	439.00	574
138.00	1944	237.00	4988	333.00	2564	441.00	132736
139.00	924	238.00	718	334.00	14583	442.00	752704
140.00	657	239.00	1928	335.00	3779	443.00	165888
141.00	21424	240.00	1702	336.00	478	444.00	15844
142.00	7739	241.00	3447	338.00	61	445.00	969
143.00	4691	242.00	8848	339.00	345	458.00	55
144.00	1530	244.00	126720	340.00	160	459.00	16
145.00	1160	245.00	17080	341.00	2709	461.00	24
146.00	4035	246.00	21376	342.00	681	463.00	18
147.00	11423	247.00	4311	343.00	40	466.00	30
148.00	24016	248.00	1017	344.00	41	470.00	22
149.00	4444	249.00	4537	346.00	4448	478.00	17
150.00	1758	250.00	921	347.00	705	479.00	31
151.00	3322	251.00	1179	348.00	113	481.00	40
152.00	1296	252.00	1098	349.00	38	490.00	19
153.00	7193	253.00	2375	350.00	266	498.00	18

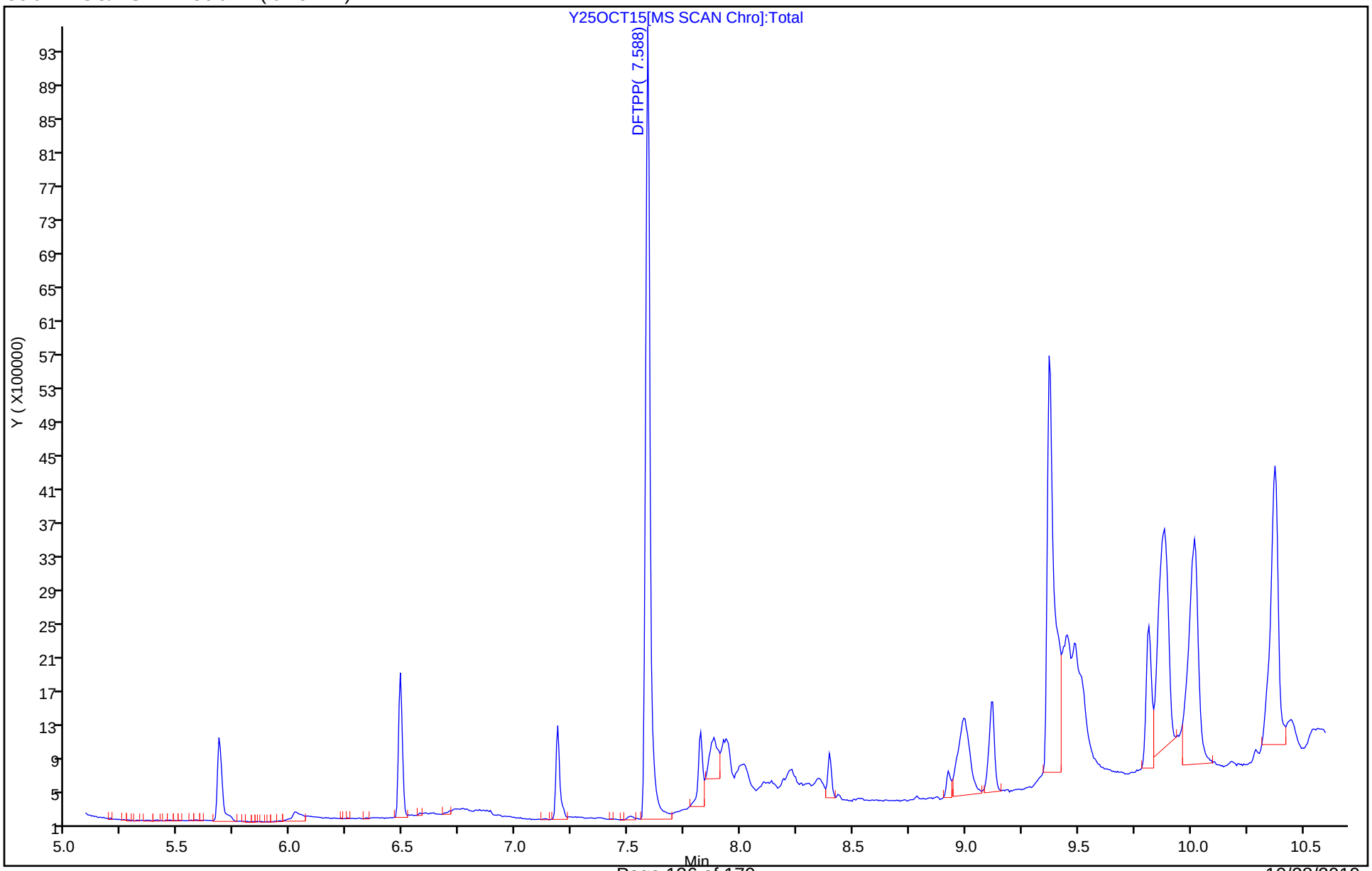
Report Date: 25-Oct-2019 15:16:09 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-8011.b\Y25OCT15.D

Injection Date:	25-Oct-2019 12:59:30	Instrument ID:	GCMSY	Operator ID:	ULLI
Lims ID:	DFTPP			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Calscience | Job No.: 570-9778-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 570-25450/1-A

Matrix: Solid | Lab File ID: Y16OCT03.D

Analysis Method: Organotins SIM | Date Collected:

Extract. Method: Organotin Prep | Date Extracted: 10/11/2019 15:57

Sample wt/vol: 10.0(g) | Date Analyzed: 10/16/2019 14:09

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 26370 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
688-73-3	Tributyltin	ND		3.0	1.5

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00386	Tripentyltin	79		27-135

Eurofins Calscience LLC
Target Compound Quantitation Report

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT03.D
Lims ID: MB 570-25450/1-A
Client ID:
Sample Type: MB
Inject. Date: 16-Oct-2019 14:09:30 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: mb 570-25450/1-a
Misc. Info.: 570-0007351-003
Operator ID: ulli Instrument ID: GCMSY

Method: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m
Limit Group: MSS - Organotins
Last Update: 18-Oct-2019 17:37:58 Calib Date: 07-Oct-2019 11:34:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D

Column 1 : GC/MS AAA Column (0.25 mm) Det: MS SCAN
Process Host: CTX1012

First Level Reviewer: nguyenv Date: 18-Oct-2019 17:37:58

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
*	1 Tetra-n-propyl tin	205	6.234	6.241	-0.007	100	11559	100.0	100.0	
	2 Tetra-n-butyltin	291	7.771	7.771	0.000	81	111		1.42	M
	3 Tributyltin	305	8.151	8.145	0.006	64	48		0.7973	M
	4 Dibutyltin	319	8.506	8.506	-0.001	82	51		1.23	M
	5 Monobutyltin	319		8.849					ND	
$	6 Tripentyltin	333	9.178	9.172	0.006	95	9045	200.0	157.8	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

MS-Otins-ISW_00002 Amount Added: 0.01 Units: mL Run Reagent

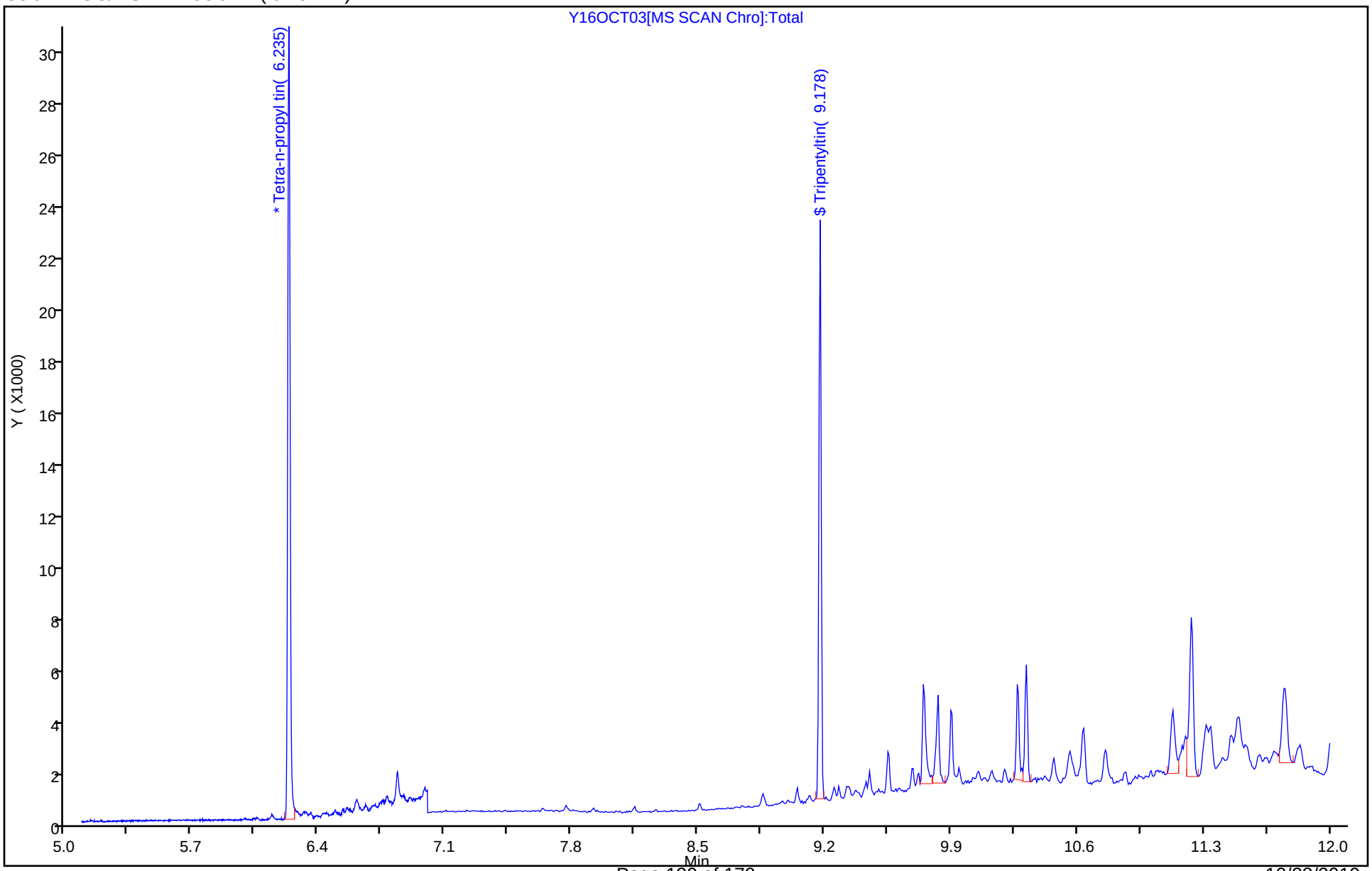
Report Date: 18-Oct-2019 17:38:08 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT03.D

Injection Date:	16-Oct-2019 14:09:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	MB 570-25450/1-A			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Recovery Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT03.D				
Lims ID:	MB 570-25450/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	16-Oct-2019 14:09:30	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	mb 570-25450/1-a				
Misc. Info.:	570-0007351-003				
Operator ID:	ulli	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	18-Oct-2019 17:37:58	Calib Date:	07-Oct-2019 11:34:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1012				

First Level Reviewer: nguyenv Date: 18-Oct-2019 17:37:58

Compound	Amount Added	Amount Recovered	% Rec.
$ 6 Tripentyltin	200.0	157.8	78.92

Manual Integration/User Assign Peak Report

Eurofins Calscience LLC

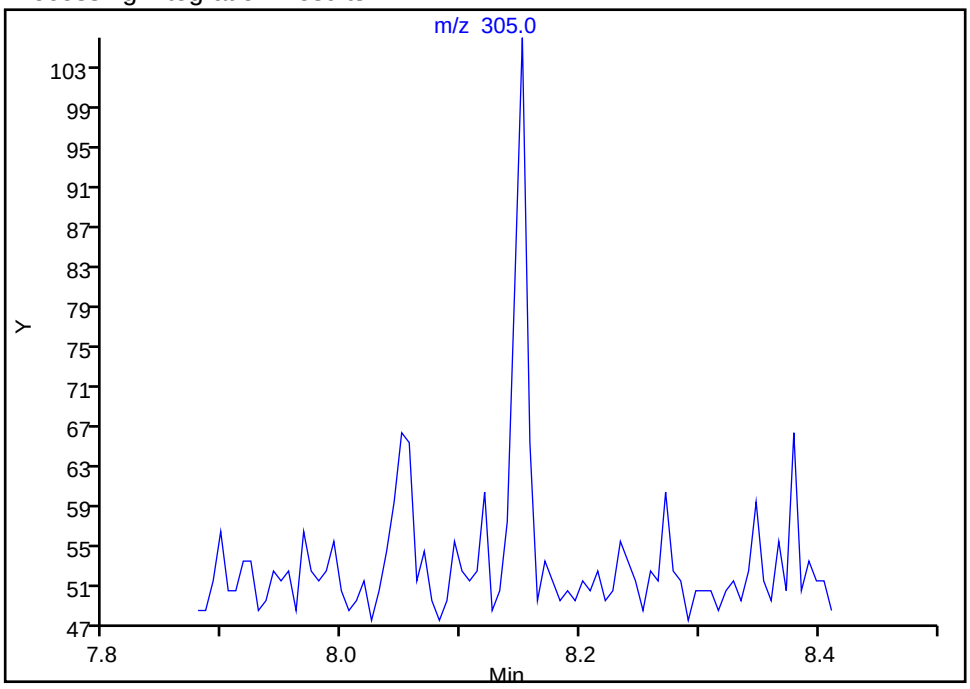
Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT03.D
Injection Date: 16-Oct-2019 14:09:30 Instrument ID: GCMSY
Lims ID: MB 570-25450/1-A
Client ID:
Operator ID: ulli ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Organotins by Krone Limit Group: MSS - Organotins
Column: GC/MS AAA Column (0.25 mm) Detector MS SCAN

3 Tributyltin, CAS: 688-73-3

Signal: 1

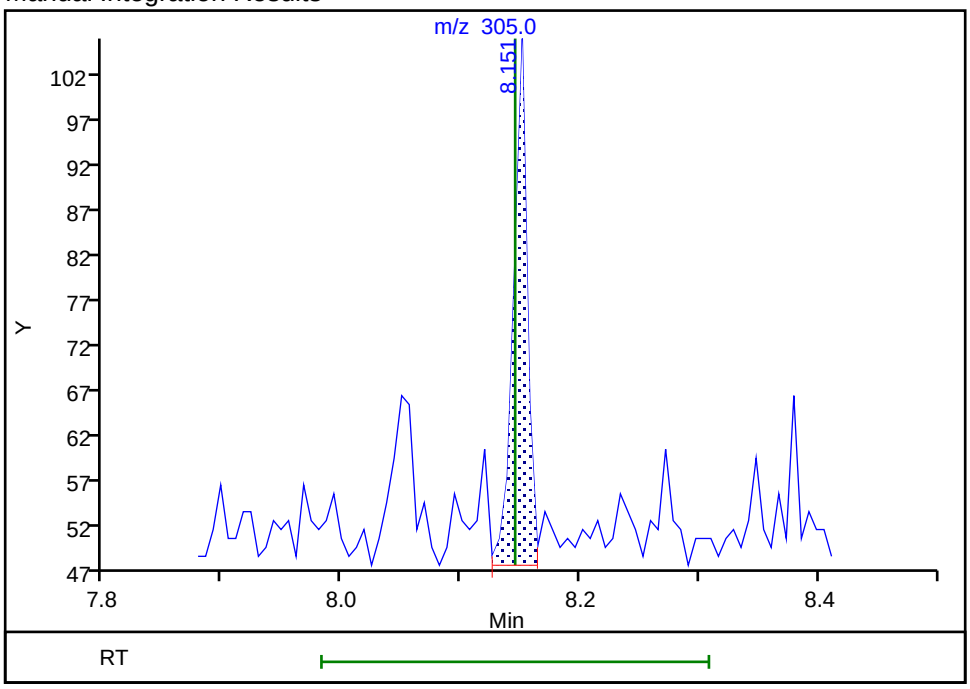
Not Detected
Expected RT: 8.15

Processing Integration Results



Manual Integration Results

RT: 8.15
Area: 48
Amount: 0.797318
Amount Units: ug/l



Reviewer: nguyenv, 16-Oct-2019 16:40:54
Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Calscience | Job No.: 570-9778-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 570-26040/1-A

Matrix: Water | Lab File ID: Y16OCT14.D

Analysis Method: Organotins SIM | Date Collected:

Extract. Method: Organotin | Date Extracted: 10/15/2019 11:43

Sample wt/vol: 1000(mL) | Date Analyzed: 10/16/2019 17:28

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 26370 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
688-73-3	Tributyltin	ND		3.0	1.4

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00386	Tripentyltin	47		19-121

Eurofins Calscience LLC
Target Compound Quantitation Report

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT14.D
Lims ID: MB 570-26040/1-A
Client ID:
Sample Type: MB
Inject. Date: 16-Oct-2019 17:28:30 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: mb 570-26040/1-a
Misc. Info.: 570-0007351-014
Operator ID: ulli Instrument ID: GCMSY

Method: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m
Limit Group: MSS - Organotins
Last Update: 25-Oct-2019 10:31:32 Calib Date: 07-Oct-2019 11:34:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D

Column 1 : GC/MS AAA Column (0.25 mm) Det: MS SCAN
Process Host: CTX1024

First Level Reviewer: nguyenv Date: 18-Oct-2019 17:26:47

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
*	1 Tetra-n-propyl tin	205	6.235	6.241	-0.006	99	9872	100.0	100.0	
	2 Tetra-n-butyltin	291		7.771					ND	U
	3 Tributyltin	305		8.145					ND	
	4 Dibutyltin	319	8.506	8.506	-0.001	38	95		2.68	
	5 Monobutyltin	319		8.849					ND	U
$	6 Tripentyltin	333	9.172	9.172	0.000	98	4570	200.0	93.4	

QC Flag Legend

Review Flags
U - Marked Undetected

Reagents:

MS-Otins-ISW_00002 Amount Added: 0.01 Units: mL Run Reagent

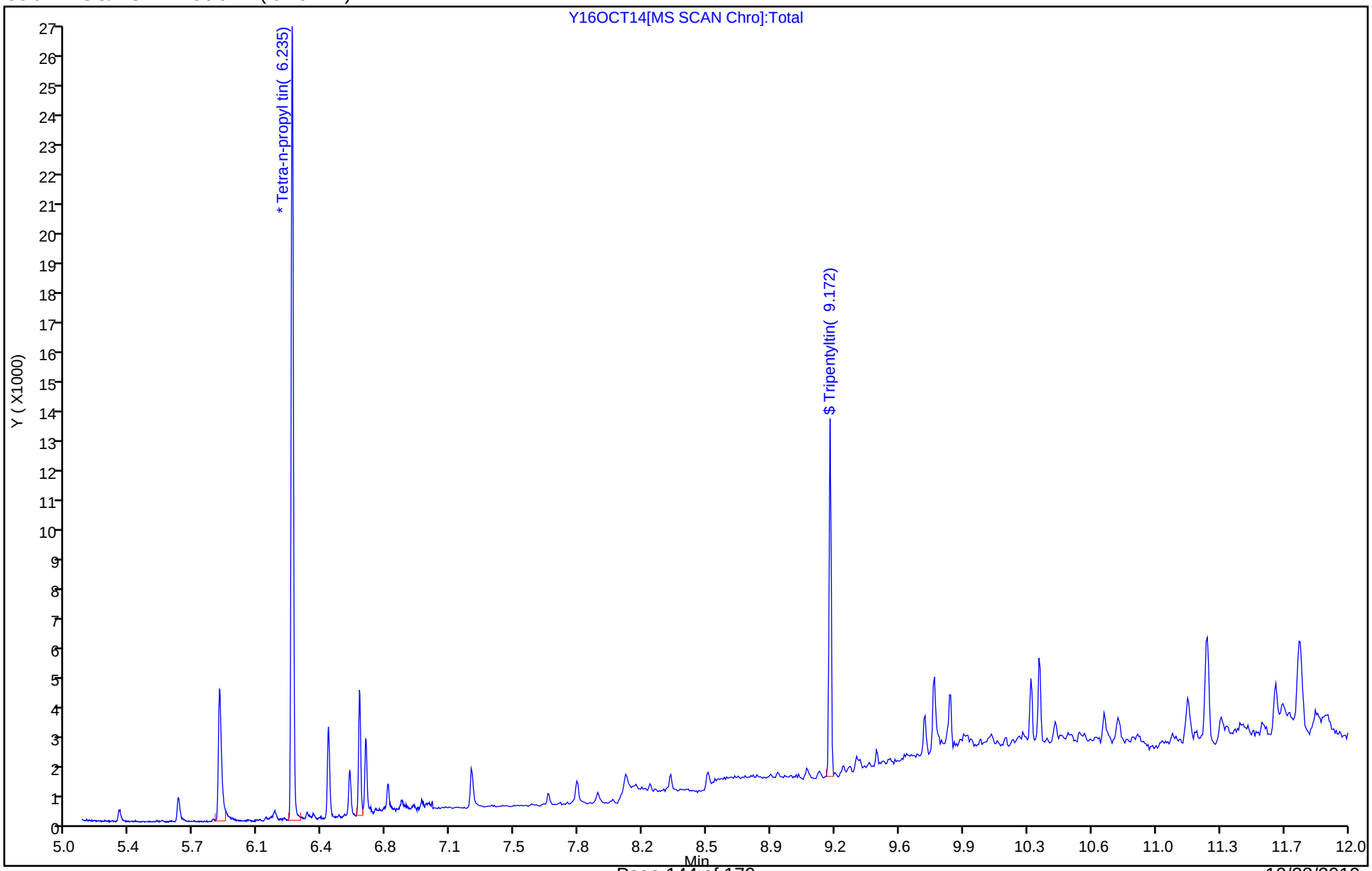
Report Date: 25-Oct-2019 15:16:58 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT14.D

Injection Date:	16-Oct-2019 17:28:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	MB 570-26040/1-A			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Recovery Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT14.D				
Lims ID:	MB 570-26040/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	16-Oct-2019 17:28:30	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	mb 570-26040/1-a				
Misc. Info.:	570-0007351-014				
Operator ID:	ulli	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	25-Oct-2019 10:31:32	Calib Date:	07-Oct-2019 11:34:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1024				

First Level Reviewer: nguyenv Date: 18-Oct-2019 17:26:47

Compound	Amount Added	Amount Recovered	% Rec.
$ 6 Tripentyltin	200.0	93.4	46.69

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Calscience | Job No.: 570-9778-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 570-25450/2-A

Matrix: Solid | Lab File ID: Y16OCT04.D

Analysis Method: Organotins SIM | Date Collected:

Extract. Method: Organotin Prep | Date Extracted: 10/11/2019 15:57

Sample wt/vol: 10.0(g) | Date Analyzed: 10/16/2019 14:27

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 26370 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
688-73-3	Tributyltin	79.48		3.0	1.5

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00386	Tripentyltin	71		27-135

Eurofins Calscience LLC
Target Compound Quantitation Report

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT04.D
Lims ID: LCS 570-25450/2-A
Client ID:
Sample Type: LCS
Inject. Date: 16-Oct-2019 14:27:30 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: lcs 570-25450/2-a
Misc. Info.: 570-0007351-004
Operator ID: ulli Instrument ID: GCMSY

Method: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m
Limit Group: MSS - Organotins
Last Update: 18-Oct-2019 17:38:17 Calib Date: 07-Oct-2019 11:34:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D

Column 1 : GC/MS AAA Column (0.25 mm) Det: MS SCAN
Process Host: CTX1012

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Tetra-n-propyl tin	205	6.232	6.241	-0.009	100	11374	100.0	100.0	
2 Tetra-n-butyltin	291	7.765	7.771	-0.006	97	14358	200.0	186.5	
3 Tributyltin	305	8.145	8.145	0.000	95	9417	200.0	159.0	
4 Dibutyltin	319	8.507	8.506	-0.001	94	8752	200.0	214.4	
5 Monobutyltin	319	8.849	8.849	0.000	96	1151	200.0	28.2	
$ 6 Tripentyltin	333	9.172	9.172	0.000	96	8046	200.0	142.7	

Reagents:

MS-Otins-ISW_00002 Amount Added: 0.01 Units: mL Run Reagent

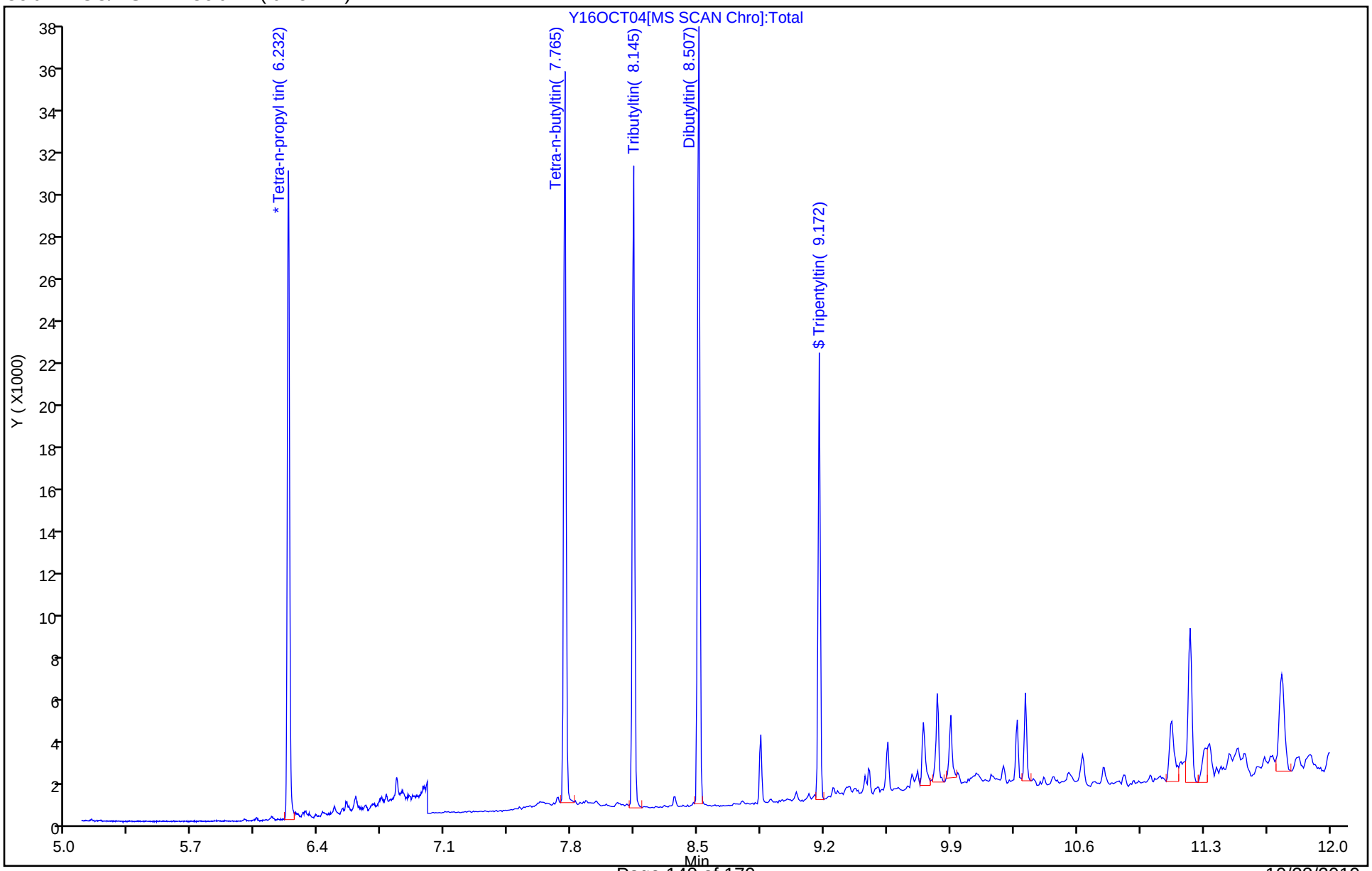
Report Date: 18-Oct-2019 17:38:17 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT04.D

Injection Date:	16-Oct-2019 14:27:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	LCS 570-25450/2-A			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Recovery Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT04.D				
Lims ID:	LCS 570-25450/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	16-Oct-2019 14:27:30	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	lcs 570-25450/2-a				
Misc. Info.:	570-0007351-004				
Operator ID:	ulli	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	18-Oct-2019 17:38:17	Calib Date:	07-Oct-2019 11:34:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1012				

Compound	Amount Added	Amount Recovered	% Rec.
$ 6 Tripentyltin	200.0	142.7	71.34

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Calscience | Job No.: 570-9778-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 570-26040/2-A

Matrix: Water | Lab File ID: Y25OCT21.D

Analysis Method: Organotins SIM | Date Collected:

Extract. Method: Organotin | Date Extracted: 10/15/2019 11:43

Sample wt/vol: 1000(mL) | Date Analyzed: 10/25/2019 14:50

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 28601 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
688-73-3	Tributyltin	116.5		3.0	1.4

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00386	Tripentyltin	53		19-121

Eurofins Calscience LLC
Target Compound Quantitation Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191025-8011.b\Y25OCT21.D				
Lims ID:	LCS 570-26040/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	25-Oct-2019 14:50:30	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCS 570-26040/2-A				
Misc. Info.:	570-0008011-007				
Operator ID:	ULLI	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191025-8011.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	25-Oct-2019 15:33:44	Calib Date:	25-Oct-2019 12:05:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT13.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1024				
First Level Reviewer: nguyenv		Date:	25-Oct-2019 15:17:18		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Tetra-n-propyl tin	205	6.257	6.267	-0.010	97	16197	100.0	100.0	
2 Tetra-n-butyltin	291	7.785	7.787	-0.013	98	12504	200.0	120.9	
3 Tributyltin	305	8.166	8.167	-0.013	97	9897	200.0	116.5	
4 Dibutyltin	319	8.527	8.521	-0.007	98	9643	200.0	166.1	
5 Monobutyltin	319	8.870	8.863	-0.006	69	899	200.0	14.8	
$ 6 Tripentyltin	333	9.193	9.186	-0.006	98	9325	200.0	105.9	

Reagents:

MS-Otins-ISW_00002 Amount Added: 0.01 Units: mL Run Reagent

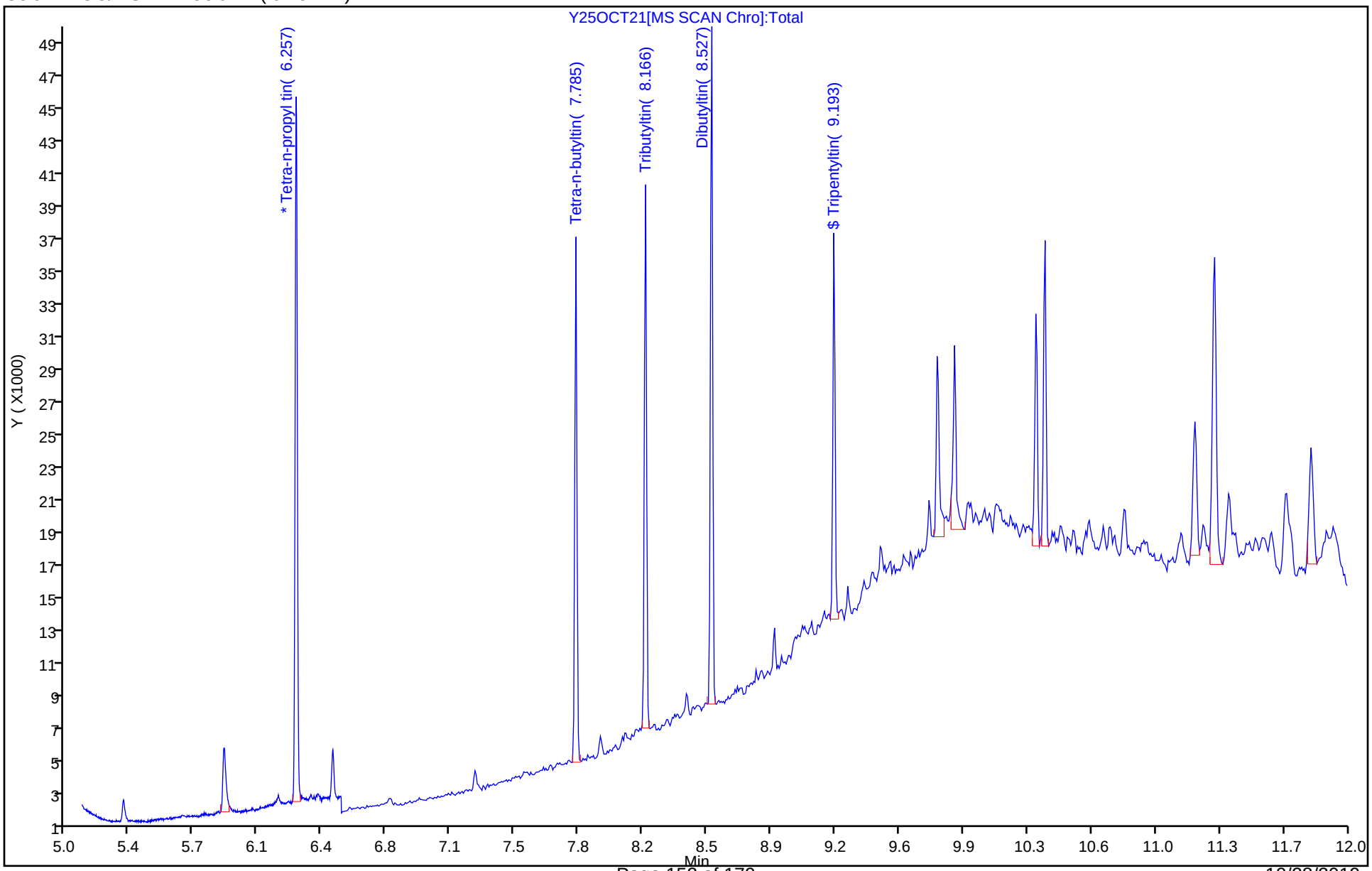
Report Date: 25-Oct-2019 15:33:44 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191025-8011.b\Y25OCT21.D

Injection Date:	25-Oct-2019 14:50:30	Instrument ID:	GCMSY	Operator ID:	ULLI
Lims ID:	LCS 570-26040/2-A			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Recovery Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191025-8011.b\Y25OCT21.D				
Lims ID:	LCS 570-26040/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	25-Oct-2019 14:50:30	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCS 570-26040/2-A				
Misc. Info.:	570-0008011-007				
Operator ID:	ULLI	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191025-8011.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	25-Oct-2019 15:33:44	Calib Date:	25-Oct-2019 12:05:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191025-7982.b\Y25OCT13.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1024				

First Level Reviewer: nguyenv Date: 25-Oct-2019 15:17:18

Compound	Amount Added	Amount Recovered	% Rec.
$ 6 Tripentyltin	200.0	105.9	52.93

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Calscience | Job No.: 570-9778-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 570-26040/3-A

Matrix: Water | Lab File ID: Y16OCT16.D

Analysis Method: Organotins SIM | Date Collected:

Extract. Method: Organotin | Date Extracted: 10/15/2019 11:43

Sample wt/vol: 1000(mL) | Date Analyzed: 10/16/2019 19:13

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 26370 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
688-73-3	Tributyltin	130.9		3.0	1.4

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00386	Tripentyltin	52		19-121

Eurofins Calscience LLC
Target Compound Quantitation Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT16.D				
Lims ID:	LCSD 570-26040/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	16-Oct-2019 19:13:30	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	lcsd 570-26040/3-a				
Misc. Info.:	570-0007351-016				
Operator ID:	ulli	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	25-Oct-2019 15:32:34	Calib Date:	07-Oct-2019 11:34:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1024				
First Level Reviewer: nguyenv		Date:	18-Oct-2019 17:27:12		

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
*	1 Tetra-n-propyl tin	205	6.236	6.241	-0.005	99	10601	100.0	100.0	
	2 Tetra-n-butyltin	291	7.765	7.764	-0.006	100	9750	200.0	135.9	
	3 Tributyltin	305	8.145	8.138	0.000	99	7230	200.0	130.9	
	4 Dibutyltin	319	8.507	8.499	0.000	100	6456	200.0	169.7	
	5 Monobutyltin	319	8.849	8.841	0.000	88	637	200.0	16.7	
$	6 Tripentyltin	333	9.179	9.164	0.007	95	5497	200.0	104.6	

Reagents:

MS-Otins-ISW_00002 Amount Added: 0.01 Units: mL Run Reagent

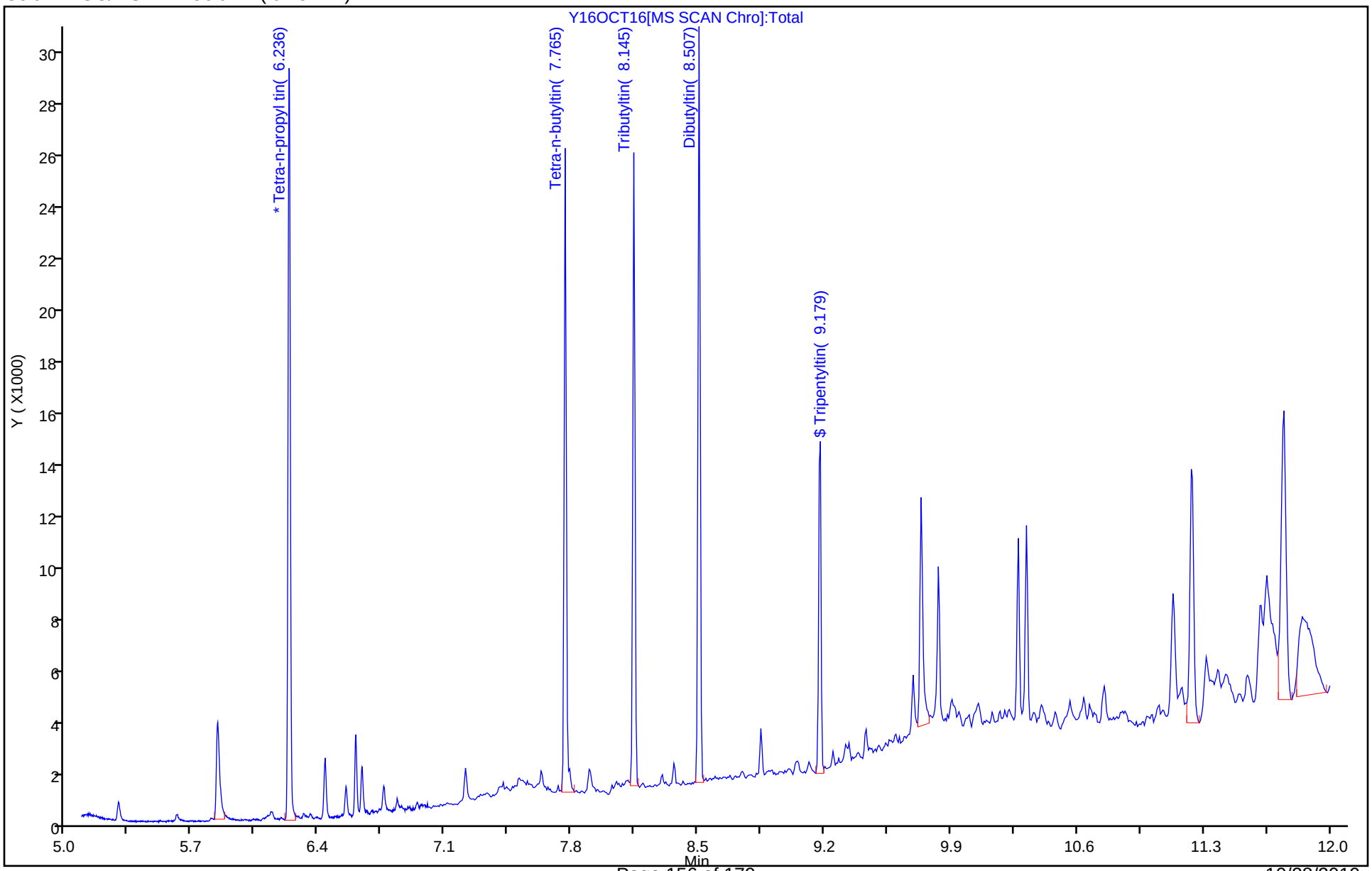
Report Date: 25-Oct-2019 15:32:34 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT16.D

Injection Date:	16-Oct-2019 19:13:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	LCSD 570-26040/3-A			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Recovery Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT16.D				
Lims ID:	LCSD 570-26040/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	16-Oct-2019 19:13:30	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	lcsd 570-26040/3-a				
Misc. Info.:	570-0007351-016				
Operator ID:	ulli	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	25-Oct-2019 15:32:34	Calib Date:	07-Oct-2019 11:34:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1024				

First Level Reviewer: nguyenv Date: 18-Oct-2019 17:27:12

Compound	Amount Added	Amount Recovered	% Rec.
$ 6 Tripentyltin	200.0	104.6	52.30

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Calscience | Job No.: 570-9778-1

SDG No.:

Client Sample ID: | Lab Sample ID: 570-9781-A-1-B MS

Matrix: Solid | Lab File ID: Y16OCT05.D

Analysis Method: Organotins SIM | Date Collected: 10/08/2019 08:35

Extract. Method: Organotin Prep | Date Extracted: 10/11/2019 15:57

Sample wt/vol: 10(g) | Date Analyzed: 10/16/2019 14:45

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: 13.6 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 26370 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
688-73-3	Tributyltin	84.89		3.5	1.7

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00386	Tripentyltin	66		27-135

Eurofins Calscience LLC
Target Compound Quantitation Report

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT05.D
Lims ID: 570-9781-A-1-B MS
Client ID:
Sample Type: MS
Inject. Date: 16-Oct-2019 14:45:30 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-9781-a-1-b ms
Misc. Info.: 570-0007351-005
Operator ID: ulli Instrument ID: GCMSY

Method: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m
Limit Group: MSS - Organotins
Last Update: 18-Oct-2019 17:32:02 Calib Date: 07-Oct-2019 11:34:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D

Column 1 : GC/MS AAA Column (0.25 mm) Det: MS SCAN
Process Host: CTX1012

First Level Reviewer: nguyenv Date: 16-Oct-2019 16:41:18

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Tetra-n-propyl tin	205	6.232	6.241	-0.009	100	10940	100.0	100.0	
2 Tetra-n-butyltin	291	7.758	7.771	-0.013	100	12829	200.0	173.2	
3 Tributyltin	305	8.139	8.145	-0.006	99	8362	200.0	146.8	
4 Dibutyltin	319	8.500	8.507	-0.007	97	5045	200.0	128.5	
5 Monobutyltin	319	8.843	8.849	-0.006	97	4845	200.0	123.4	
$ 6 Tripentyltin	333	9.172	9.172	0.000	95	7125	200.0	131.4	

Reagents:

MS-Otins-ISW_00002 Amount Added: 0.01 Units: mL Run Reagent

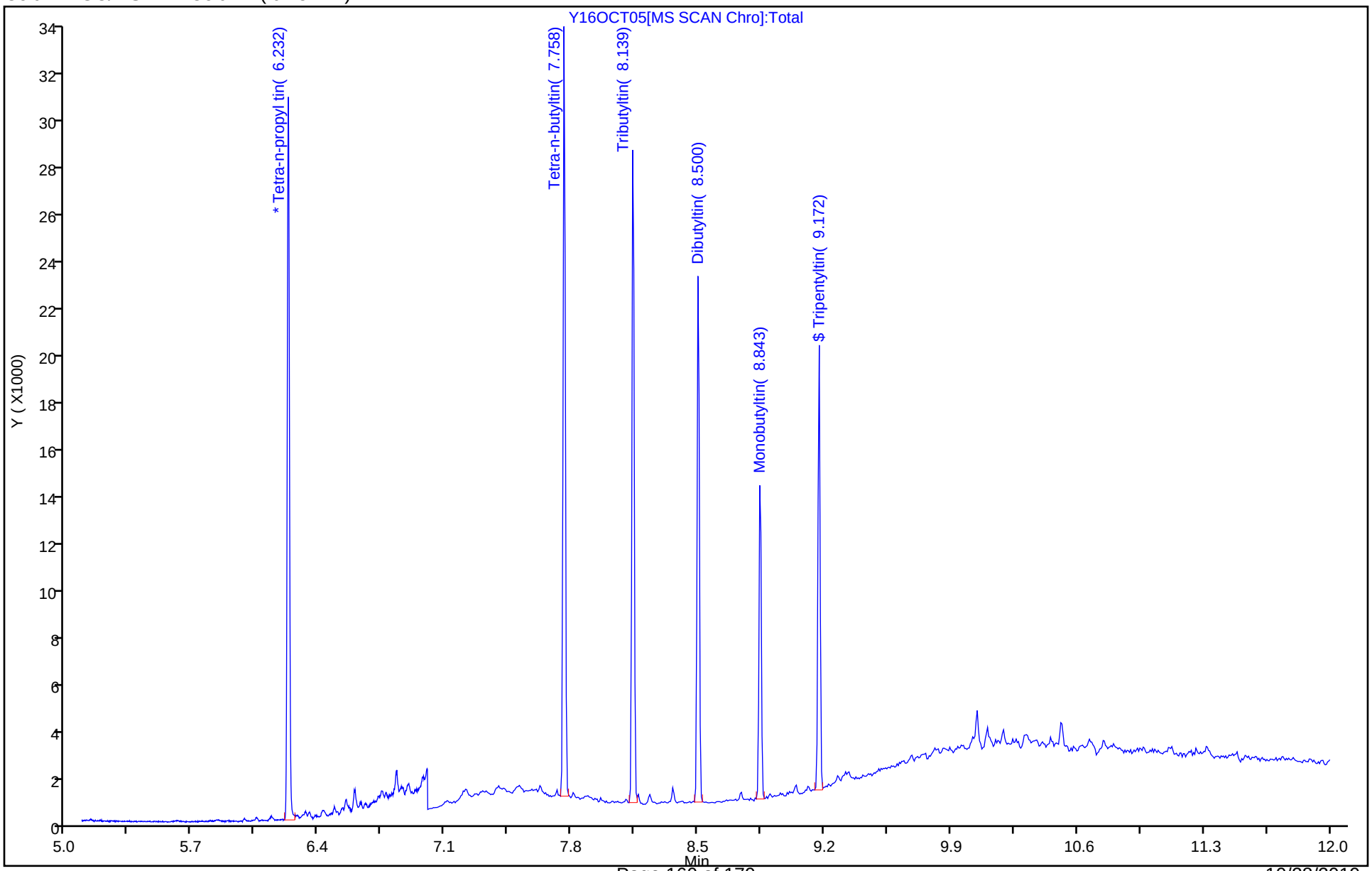
Report Date: 18-Oct-2019 17:32:06 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT05.D

Injection Date:	16-Oct-2019 14:45:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	570-9781-A-1-B MS			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Recovery Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT05.D				
Lims ID:	570-9781-A-1-B MS				
Client ID:					
Sample Type:	MS				
Inject. Date:	16-Oct-2019 14:45:30	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	570-9781-a-1-b ms				
Misc. Info.:	570-0007351-005				
Operator ID:	ulli	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	18-Oct-2019 17:32:02	Calib Date:	07-Oct-2019 11:34:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1012				

First Level Reviewer: nguyenv Date: 16-Oct-2019 16:41:18

Compound	Amount Added	Amount Recovered	% Rec.
$ 6 Tripentyltin	200.0	131.4	65.68

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Calscience | Job No.: 570-9778-1

SDG No.:

Client Sample ID: | Lab Sample ID: 570-9781-A-1-C MSD

Matrix: Solid | Lab File ID: Y16OCT06.D

Analysis Method: Organotins SIM | Date Collected: 10/08/2019 08:35

Extract. Method: Organotin Prep | Date Extracted: 10/11/2019 15:57

Sample wt/vol: 10.2(g) | Date Analyzed: 10/16/2019 15:04

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: 13.6 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 26370 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
688-73-3	Tributyltin	84.72		3.4	1.7

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00386	Tripentyltin	63		27-135

Eurofins Calscience LLC
Target Compound Quantitation Report

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT06.D
Lims ID: 570-9781-A-1-C MSD
Client ID:
Sample Type: MSD
Inject. Date: 16-Oct-2019 15:04:30 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-9781-a-1-c msd
Misc. Info.: 570-0007351-006
Operator ID: ulli Instrument ID: GCMSY

Method: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m
Limit Group: MSS - Organotins
Last Update: 18-Oct-2019 17:32:02 Calib Date: 07-Oct-2019 11:34:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D

Column 1 : GC/MS AAA Column (0.25 mm) Det: MS SCAN
Process Host: CTX1012

First Level Reviewer: nguyenv Date: 16-Oct-2019 16:41:30

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
*	1 Tetra-n-propyl tin	205	6.234	6.241	-0.007	100	10895	100.0	100.0	
	2 Tetra-n-butyltin	291	7.758	7.771	-0.013	100	13224	200.0	179.3	
	3 Tributyltin	305	8.145	8.145	0.000	93	8477	200.0	149.4	
	4 Dibutyltin	319	8.506	8.507	-0.001	92	7180	200.0	183.6	
	5 Monobutyltin	319	8.843	8.849	-0.006	94	1120	200.0	28.6	
$	6 Tripentyltin	333	9.172	9.172	0.000	97	6825	200.0	126.4	

Reagents:

MS-Otins-ISW_00002 Amount Added: 0.01 Units: mL Run Reagent

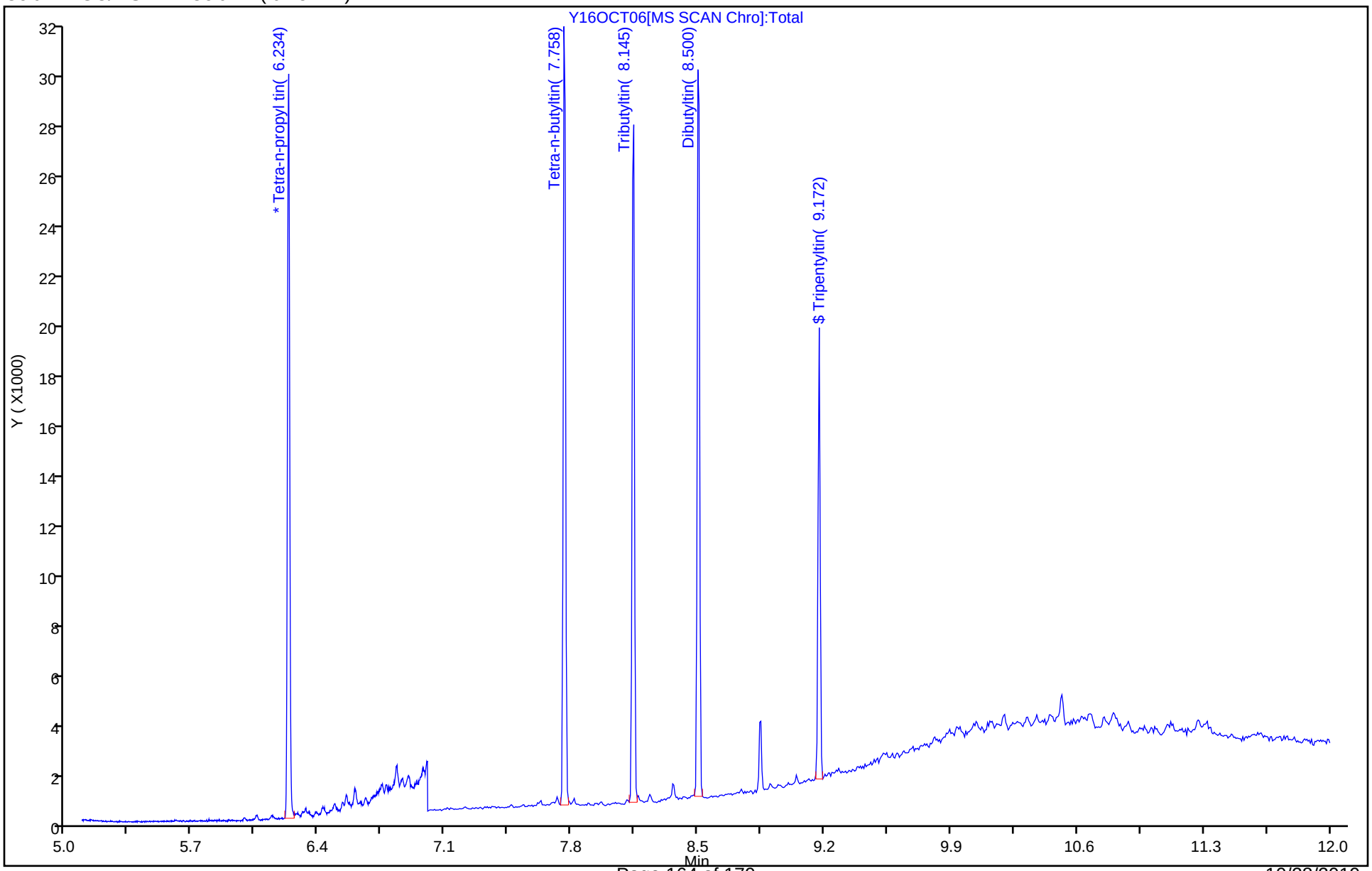
Report Date: 18-Oct-2019 17:32:06 Chrom Revision: 2.3 17-Oct-2019 22:00:42

Eurofins Calscience LLC

Data File: \\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT06.D

Injection Date:	16-Oct-2019 15:04:30	Instrument ID:	GCMSY	Operator ID:	ulli
Lims ID:	570-9781-A-1-C MSD			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	Organotins by Krone	Limit Group:	MSS - Organotins		

Column: GC/MS AAA Column (0.25 mm)



Eurofins Calscience LLC
Recovery Report

Data File:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Y16OCT06.D				
Lims ID:	570-9781-A-1-C MSD				
Client ID:					
Sample Type:	MSD				
Inject. Date:	16-Oct-2019 15:04:30	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	570-9781-a-1-c msd				
Misc. Info.:	570-0007351-006				
Operator ID:	ulli	Instrument ID:	GCMSY		
Method:	\\ChromNA\CalScience\ChromData\GCMSY\20191016-7351.b\Organotins by Krone.m				
Limit Group:	MSS - Organotins				
Last Update:	18-Oct-2019 17:32:02	Calib Date:	07-Oct-2019 11:34:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\CalScience\ChromData\GCMSY\20191007-6715.b\Y07OCT06.D				
Column 1 :	GC/MS AAA Column (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1012				

First Level Reviewer: nguyenv Date: 16-Oct-2019 16:41:30

Compound	Amount Added	Amount Recovered	% Rec.
$ 6 Tripentyltin	200.0	126.4	63.18

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Instrument ID: GCMSY Start Date: 10/07/2019 10:07

Analysis Batch Number: 24154 End Date: 10/07/2019 16:47

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 570-24154/1		10/07/2019 10:07	1	Y07OCT01.D	AAA Agilent J&W 0.25(mm)
IC 570-24154/2		10/07/2019 10:23	1	Y07OCT02.D	AAA Agilent J&W 0.25(mm)
IC 570-24154/3		10/07/2019 10:41	1	Y07OCT03.D	AAA Agilent J&W 0.25(mm)
ICIS 570-24154/4		10/07/2019 10:59	1	Y07OCT04.D	AAA Agilent J&W 0.25(mm)
IC 570-24154/5		10/07/2019 11:16	1	Y07OCT05.D	AAA Agilent J&W 0.25(mm)
IC 570-24154/6		10/07/2019 11:34	1	Y07OCT06.D	AAA Agilent J&W 0.25(mm)
ICV 570-24154/7		10/07/2019 14:45	1	Y07OCT08.D	AAA Agilent J&W 0.25(mm)
CCVIS 570-24154/8		10/07/2019 15:02	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/07/2019 15:37	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/07/2019 16:12	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/07/2019 16:29	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/07/2019 16:47	1		AAA Agilent J&W 0.25(mm)

Organotins SIM

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Instrument ID: GCMSY Start Date: 10/16/2019 12:57

Analysis Batch Number: 26370 End Date: 10/16/2019 21:36

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 570-26370/1		10/16/2019 12:57	1	Y16OCT01.D	AAA Agilent J&W 0.25(mm)
CCVIS 570-26370/2		10/16/2019 13:26	1	Y16OCT02.D	AAA Agilent J&W 0.25(mm)
MB 570-25450/1-A		10/16/2019 14:09	1	Y16OCT03.D	AAA Agilent J&W 0.25(mm)
LCS 570-25450/2-A		10/16/2019 14:27	1	Y16OCT04.D	AAA Agilent J&W 0.25(mm)
570-9781-A-1-B MS		10/16/2019 14:45	1	Y16OCT05.D	AAA Agilent J&W 0.25(mm)
570-9781-A-1-C MSD		10/16/2019 15:04	1	Y16OCT06.D	AAA Agilent J&W 0.25(mm)
570-9778-1		10/16/2019 15:21	1	Y16OCT07.D	AAA Agilent J&W 0.25(mm)
570-9778-2		10/16/2019 15:39	1	Y16OCT08.D	AAA Agilent J&W 0.25(mm)
570-9778-3		10/16/2019 15:57	1	Y16OCT09.D	AAA Agilent J&W 0.25(mm)
ZZZZZ		10/16/2019 16:16	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/16/2019 16:34	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/16/2019 16:51	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/16/2019 17:09	1		AAA Agilent J&W 0.25(mm)
MB 570-26040/1-A		10/16/2019 17:28	1	Y16OCT14.D	AAA Agilent J&W 0.25(mm)
LCSD 570-26040/3-A		10/16/2019 19:13	1	Y16OCT16.D	AAA Agilent J&W 0.25(mm)
ZZZZZ		10/16/2019 19:31	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/16/2019 19:49	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/16/2019 20:07	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/16/2019 20:43	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/16/2019 21:01	1		AAA Agilent J&W 0.25(mm)
570-9778-4		10/16/2019 21:18	1	Y16OCT23.D	AAA Agilent J&W 0.25(mm)
ZZZZZ		10/16/2019 21:36	1		AAA Agilent J&W 0.25(mm)

Organotins SIM

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Instrument ID: GCMSY Start Date: 10/25/2019 09:12

Analysis Batch Number: 28530 End Date: 10/25/2019 12:35

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 570-28530/1		10/25/2019 09:12	1	Y25OCT02.D	AAA Agilent J&W 0.25(mm)
IC 570-28530/2		10/25/2019 10:53	1	Y25OCT09.D	AAA Agilent J&W 0.25(mm)
IC 570-28530/3		10/25/2019 11:10	1	Y25OCT10.D	AAA Agilent J&W 0.25(mm)
ICIS 570-28530/4		10/25/2019 11:28	1	Y25OCT11.D	AAA Agilent J&W 0.25(mm)
IC 570-28530/5		10/25/2019 11:47	1	Y25OCT12.D	AAA Agilent J&W 0.25(mm)
IC 570-28530/6		10/25/2019 12:05	1	Y25OCT13.D	AAA Agilent J&W 0.25(mm)
ICV 570-28530/7		10/25/2019 12:35	1	Y25OCT14.D	AAA Agilent J&W 0.25(mm)

Organotins SIM

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Instrument ID: GCMSY Start Date: 10/25/2019 12:59

Analysis Batch Number: 28601 End Date: 10/26/2019 00:32

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 570-28601/1		10/25/2019 12:59	1	Y25OCT15.D	AAA Agilent J&W 0.25(mm)
CCVIS 570-28601/2		10/25/2019 13:19	1	Y25OCT16.D	AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 13:37	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 13:55	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 14:32	1		AAA Agilent J&W 0.25(mm)
LCS 570-26040/2-A		10/25/2019 14:50	1	Y25OCT21.D	AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 15:09	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 15:27	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 15:44	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 16:20	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 16:39	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 16:57	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 17:15	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 17:32	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 17:57	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 18:15	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 18:33	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 18:51	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 19:08	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 19:25	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 19:42	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 19:59	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 20:16	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 20:33	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 20:50	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 21:07	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 21:24	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 21:41	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 21:58	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 22:15	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 22:32	1		AAA Agilent J&W 0.25(mm)

Organotins SIM

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Instrument ID: GCMSY Start Date: 10/25/2019 12:59

Analysis Batch Number: 28601 End Date: 10/26/2019 00:32

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		10/25/2019 22:49	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 23:07	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 23:24	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 23:41	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/25/2019 23:58	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/26/2019 00:15	1		AAA Agilent J&W 0.25(mm)
ZZZZZ		10/26/2019 00:32	1		AAA Agilent J&W 0.25(mm)

Organotins SIM

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Batch Number: 25450 Batch Start Date: 10/11/19 15:57 Batch Analyst: Bersabe, Sherri

Batch Method: Organotin Prep Batch End Date: 10/11/19 21:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	InitialAmount	MS-Otins-SpW 00003	MS-Otins-SrW 00004		
MB 570-25450/1		Organotin Prep, Organotins SIM		5 mL	10.0 g		1 mL		
LCS 570-25450/2		Organotin Prep, Organotins SIM		5 mL	10.0 g	1 mL	1 mL		
570-9781-A-1 MS		Organotin Prep, Organotins SIM	T	5 mL	10 g	1 mL	1 mL		
570-9781-A-1 MSD		Organotin Prep, Organotins SIM	T	5 mL	10.2 g	1 mL	1 mL		
570-9778-A-1	A9J0277-01	Organotin Prep, Organotins SIM	T	5 mL	10.3 g		1 mL		
570-9778-A-2	A9J0277-03	Organotin Prep, Organotins SIM	T	5 mL	10.1 g		1 mL		
570-9778-A-3	A9J0277-04	Organotin Prep, Organotins SIM	T	5 mL	10.3 g		1 mL		

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.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Batch Number: 25450 Batch Start Date: 10/11/19 15:57 Batch Analyst: Bersabe, Sherri

Batch Method: Organotin Prep Batch End Date: 10/11/19 21:00

Batch Notes	
Batch Comment	Organotin Soil FV=5mL
Lot # of hydrochloric acid	25084
MeCl2 or DCM Lot #	0.01% Tropolone in Hexane: 204208
N-evap ID	SVP-001/SVP-002
N-evap Temperature	45.0 Celsius
Na2SO4 ID	102662
N-evap Corrected Temperature	45.2 Celsius
Water Bath ID	SVP-001/SVP-002
Water Bath Temperature	45.0 Celsius
Water Bath Thermometer ID	C24829

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.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Batch Number: 26040 Batch Start Date: 10/15/19 11:42 Batch Analyst: Bersabe, Sherri

Batch Method: Organotin Batch End Date: 10/15/19 19:13

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	FirstAdjustpH	MS-Otins-SpW 00003
MB 570-26040/1		Organotin, Organotins SIM				1000 mL	1 mL	<2 SU	
LCS 570-26040/2		Organotin, Organotins SIM				1000 mL	1 mL	<2 SU	0.2 mL
LCSD 570-26040/3		Organotin, Organotins SIM				1000 mL	1 mL	<2 SU	0.2 mL
570-9778-A-4	A9J0277-05	Organotin, Organotins SIM	T	1530.4 g	521.6 g	1008.8 mL	1 mL	<2 SU	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MS-Otins-SrW 00004	AnalysisComment				
MB 570-26040/1		Organotin, Organotins SIM		0.2 mL					
LCS 570-26040/2		Organotin, Organotins SIM		0.2 mL					
LCSD 570-26040/3		Organotin, Organotins SIM		0.2 mL					
570-9778-A-4	A9J0277-05	Organotin, Organotins SIM	T	0.2 mL	Clear Water				

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.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-9778-1

SDG No.:

Batch Number: 26040 Batch Start Date: 10/15/19 11:42 Batch Analyst: Bersabe, Sherri

Batch Method: Organotin Batch End Date: 10/15/19 19:13

Batch Notes	
Batch Comment	Organotins W 1ML
Lot # of hydrochloric acid	025084
MeCl2 or DCM Lot #	0.01% Tropolone in Hexane ID:96272
N-evap ID	SVP001
N-evap Temperature	45.0 Celsius
Na2SO4 ID	102655
N-evap Corrected Temperature	45.2 Celsius
Water Bath ID	TVP004
Water Bath Temperature	45.0 Celsius
Water Bath Thermometer ID	C24829

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

Loc: 570
9778

SUBCONTRACT ORDER

Apex Laboratories

A9J0277

10/9/19

OND 10/9/19

SENDING LABORATORY:

Apex Laboratories
6700 S.W. Sandburg Street
Tigard, OR 97223
Phone: (503) 718-2323
Fax: (503) 336-0745
Project Manager: Philip Nerenberg

RECEIVING LABORATORY:

Eurofins_CalScience
7440 Lincoln Way
Garden Grove, CA 92841-1427
Phone :(714) 895-5494
Fax: (714) 894-7501

570-9778 Chain of Custody

Sample Name: A9J0277-01 (1) **Sedimen** **Sampled: 10/07/19 18:40** (SED05-SB-2)

Analysis	Due	Expires	Comments
TBT, Tributyl Tin Only (Sub)	10/21/19 17:00	10/21/19 18:40	Level IV DP, needs custody seal for shipping
Containers Supplied: (G)4 oz Glass Jar			

Sample Name: A9J0277-03 (2) **Sedimen** **Sampled: 10/07/19 18:57** (SED05-SB-5)

Analysis	Due	Expires	Comments
TBT, Tributyl Tin Only (Sub)	10/21/19 17:00	10/21/19 18:57	Level IV DP, needs custody seal for shipping
Containers Supplied: (G)4 oz Glass Jar			

Sample Name: A9J0277-04 (3) **Sedimen** **Sampled: 10/07/19 19:05** (SED05-SB-7)

Analysis	Due	Expires	Comments
TBT, Tributyl Tin Only (Sub)	10/21/19 17:00	10/21/19 19:05	Level IV DP, needs custody seal for shipping
Containers Supplied: (G)4 oz Glass Jar			

Sample Name: A9J0277-05 (4) **Water** **Sampled: 10/07/19 19:15** (SED05-SB-RB)

Analysis	Due	Expires	Comments
TBT, Tributyl Tin Only (Sub)	10/21/19 17:00	10/21/19 19:15	Level IV DP, needs custody seal for shipping
Containers Supplied: (L)1 L Amber Glass - Non Preserved (M)1 L Amber Glass - Non Preserved			

Standard TAT

Released By	Date	Received By	Date
	10/4/19 14:40	FedEx (Shipper)	
FedEx (Shipper)			
Released By	Date	Received By	Date
			10/10/19 1030

2.4/2.9 SG


ORIGIN ID:BNOA (503) 718-2323
SAMPLE CONTROL
APEX LABS
6700 SW SANDBURG ST
TIGARD, OR 97223
UNITED STATES US
SHIP DATE: 09OCT19
ACTWGT: 31.00 LB
CAD: 4716258/INET4160
BILL SENDER
TO DANIELLE GONSMAN
CALSCIENCE
7440 LINCOLN WAY
GARDEN GROVE CA 92841
(714) 895-5494
REF
DEPT
FedEx Express
THU - 10 OCT 10:30A
PRIORITY OVERNIGHT
TRK#
0201
7766 5023 8986
WZ APVA
92841
CA-US
SNA
FedEx Ship Manager - Print Your Label(s)
10/9/2019
570-9778 Waybill

FedEx Ship Manager - Print Your Label(s)

ORIGIN ID:BNOA (503) 718-2323
SAMPLE CONTROL
APEX LABS
6700 SW SANDBURG ST

TIGARD, OR 97223
UNITED STATES US

SHIP DATE: 09OCT19
ACTWGT: 31.00 LB
CAD: 4716258/INET4160

BILL SENDER

TO DANIELLE GONSMAN
CALSCIENCE
7440 LINCOLN WAY

GARDEN GROVE CA 92841
(714) 895-5494 REF
INV
PO DEPT

FedEx Express

THU - 10 OCT 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7766 5023 8986

WZ APVA

92841
CA-US SNA

570-9778 Waybill

10/9/2019

Login Sample Receipt Checklist

Client: Apex Laboratory

Job Number: 570-9778-1

Login Number: 9778
List Number: 1
Creator: Liao, Gineyau

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	