

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

Attn: Terri Choy  
AECOM

1001 Bishop Street  
Honolulu HI 96813

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**JOB DESCRIPTION**

Red Hill - AFFF Assessment Sampling

**JOB NUMBER**

580-121536-1

# Eurofins Seattle

## Job Notes

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The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

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

## Authorization



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Authorized for release by  
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253 248-4972

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# Definitions/Glossary

Client: AECOM  
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-121536-1

## Qualifiers

### GC Semi VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.

## Glossary

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

**CASE NARRATIVE**  
**Client: AECOM**  
**Project: Red Hill - AFFF Assessment Sampling**  
**Report Number: 580-121536-1**

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**

Two samples were received on 12/22/2022; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.1 C.

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

**GLYCOLS - 2-(2-BUTOXYETHOXY)ETHANOL**

**Samples AF-RHMW12A-WGN01LF-2212W3 (580-121536-1) and AF-RHMW12A-WGFD01LF-2212W3 (580-121536-2) were analyzed for glycols in accordance with EPA SW-846 Method 8015B - DAI. The samples were analyzed on 12/31/2022.**

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

# Detection Summary

Client: AECOM  
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-121536-1

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**Client Sample ID: AF-RHMW12A-WGN01LF-2212W3**

**Lab Sample ID: 580-121536-1**

No Detections.

---

**Client Sample ID: AF-RHMW12A-WGFD01LF-2212W3**

**Lab Sample ID: 580-121536-2**

No Detections.

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client: AECOM  
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-121536-1

**Client Sample ID: AF-RHMW12A-WGN01LF-2212W3**

**Lab Sample ID: 580-121536-1**

Date Collected: 12/21/22 10:45

Matrix: Water

Date Received: 12/22/22 14:15

**Method: SW846 8015C GLY - Glycols- Direct Injection (GC/FID)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-(2-Butoxyethoxy)ethanol	3.0	U	5.0	1.1	mg/L			12/31/22 20:46	1

**Client Sample ID: AF-RHMW12A-WGFD01LF-2212W3**

**Lab Sample ID: 580-121536-2**

Date Collected: 12/21/22 10:45

Matrix: Water

Date Received: 12/22/22 14:15

**Method: SW846 8015C GLY - Glycols- Direct Injection (GC/FID)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-(2-Butoxyethoxy)ethanol	3.0	U	5.0	1.1	mg/L			12/31/22 21:09	1



# Default Detection Limits

Client: AECOM

Job ID: 580-121536-1

Project/Site: Red Hill - AFFF Assessment Sampling

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## Method: 8015C GLY - Glycols- Direct Injection (GC/FID)

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Analyte	LOQ	DL	Units
2-(2-Butoxyethoxy)ethanol	5.0	1.1	mg/L

# QC Sample Results

Client: AECOM  
 Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-121536-1

## Method: 8015C GLY - Glycols- Direct Injection (GC/FID)

**Lab Sample ID: MB 680-757531/16**  
**Matrix: Water**  
**Analysis Batch: 757531**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-(2-Butoxyethoxy)ethanol	3.0	U	5.0	1.1	mg/L			12/31/22 18:08	1

**Lab Sample ID: LCS 680-757531/12**  
**Matrix: Water**  
**Analysis Batch: 757531**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-(2-Butoxyethoxy)ethanol	20.0	20.7		mg/L		104	50 - 150

**Lab Sample ID: LCSD 680-757531/13**  
**Matrix: Water**  
**Analysis Batch: 757531**

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2-(2-Butoxyethoxy)ethanol	20.0	21.6		mg/L		108	50 - 150	4	50

# QC Association Summary

Client: AECOM  
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-121536-1

## GC Semi VOA

### Analysis Batch: 757531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-121536-1	AF-RHMW12A-WGN01LF-2212W3	Total/NA	Water	8015C GLY	
580-121536-2	AF-RHMW12A-WGFD01LF-2212W3	Total/NA	Water	8015C GLY	
MB 680-757531/16	Method Blank	Total/NA	Water	8015C GLY	
LCS 680-757531/12	Lab Control Sample	Total/NA	Water	8015C GLY	
LCSD 680-757531/13	Lab Control Sample Dup	Total/NA	Water	8015C GLY	

# Lab Chronicle

Client: AECOM  
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-121536-1

**Client Sample ID: AF-RHMW12A-WGN01LF-2212W3**

**Lab Sample ID: 580-121536-1**

**Date Collected: 12/21/22 10:45**

**Matrix: Water**

**Date Received: 12/22/22 14:15**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	757531	JCK	EET SAV	12/31/22 20:46

**Client Sample ID: AF-RHMW12A-WGFD01LF-2212W3**

**Lab Sample ID: 580-121536-2**

**Date Collected: 12/21/22 10:45**

**Matrix: Water**

**Date Received: 12/22/22 14:15**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	757531	JCK	EET SAV	12/31/22 21:09

**Laboratory References:**

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

# Accreditation/Certification Summary

Client: AECOM  
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-121536-1

## Laboratory: Eurofins Savannah

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>	<u>Expiration Date</u>
ANAB	Dept. of Defense ELAP	L2463	09-22-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

<u>Analysis Method</u>	<u>Prep Method</u>	<u>Matrix</u>	<u>Analyte</u>
8015C GLY		Water	2-(2-Butoxyethoxy)ethanol

# Method Summary

Client: AECOM

Job ID: 580-121536-1

Project/Site: Red Hill - AFFF Assessment Sampling

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<b>Method</b>	<b>Method Description</b>	<b>Protocol</b>	<b>Laboratory</b>
8015C GLY	Glycols- Direct Injection (GC/FID)	SW846	EET SAV

**Protocol References:**

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

**Laboratory References:**

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

# Sample Summary

Client: AECOM

Job ID: 580-121536-1

Project/Site: Red Hill - AFFF Assessment Sampling

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-121536-1	AF-RHMW12A-WGN01LF-2212W3	Water	12/21/22 10:45	12/22/22 14:15
580-121536-2	AF-RHMW12A-WGFD01LF-2212W3	Water	12/21/22 10:45	12/22/22 14:15

GC SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121536-1

SDG No.: \_\_\_\_\_

Instrument ID: CVGG2 Analysis Batch Number: 757531

Lab Sample ID: IC 680-757531/8 Client Sample ID: \_\_\_\_\_

Date Analyzed: 12/31/22 15:06 Lab File ID: 22GL31008.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	7.55	Baseline Smoothing	SWK1	01/03/23 12:52
Ethylene glycol	8.00	Baseline Smoothing	SWK1	01/03/23 12:52

Lab Sample ID: IC 680-757531/9 Client Sample ID: \_\_\_\_\_

Date Analyzed: 12/31/22 15:29 Lab File ID: 22GL31009.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	7.54	Baseline Smoothing	SWK1	01/03/23 12:52
Ethylene glycol	8.00	Baseline Smoothing	SWK1	01/03/23 12:52

Lab Sample ID: IC 680-757531/10 Client Sample ID: \_\_\_\_\_

Date Analyzed: 12/31/22 15:52 Lab File ID: 22GL31010.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	7.53	Baseline Smoothing	SWK1	01/03/23 12:52
Ethylene glycol	8.00	Baseline Smoothing	SWK1	01/03/23 12:52

Lab Sample ID: ICV 680-757531/11 Client Sample ID: \_\_\_\_\_

Date Analyzed: 12/31/22 16:14 Lab File ID: 22GL31011.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	7.56	Baseline Smoothing	SWK1	01/03/23 12:53
Ethylene glycol	8.00	Baseline Smoothing	SWK1	01/03/23 12:53



GC SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121536-1

SDG No.: \_\_\_\_\_

Instrument ID: CVGG2 Analysis Batch Number: 757531

Lab Sample ID: CCV 680-757531/38 Client Sample ID: \_\_\_\_\_

Date Analyzed: 01/01/23 02:26 Lab File ID: 22GL31038.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	7.58	Baseline Smoothing	SWK1	01/03/23 13:05
Ethylene glycol	8.01	Baseline Smoothing	SWK1	01/03/23 13:05

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121536-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
SG_Gly_CAL_00052	06/30/23		o2si, Lot 480919			(Purchased Reagent)	2,2'-Oxybisethanol	2000 ug/mL
							2-(2-Butoxyethoxy)ethanol	2000 ug/mL
							2-Butoxyethanol	2000 ug/mL
							4-Hydroxy-4-methyl-2-pentanone	2000 ug/mL
							Dipropylene Glycol Methyl Ether	2000 ug/mL
							Ethanol, 2-propoxy	2000 ug/mL
							Ethylene glycol	2000 ug/mL
							Propylene glycol	2000 ug/mL
SG_GLY_ISTD_00099	04/25/23		Agilent, Lot 0006670821			(Purchased Reagent)	n-Heptyl Alcohol	5000 ug/mL
SG_GlyICV_00052	06/30/23		o2si, Lot 454407			(Purchased Reagent)	2-(2-Butoxyethoxy)ethanol	2000 ug/mL

Reagent

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**SG\_Gly\_CAL\_00052**



ISO/IEC 17025 Accredited  
Chemical Testing Lab  
Cert. No. 3031.01



ISO 17034 Accredited  
Reference Material Producer  
Cert. No. 3031.02

Rev 0

## Certificate of Analysis

Page 1 of 3

Catalog No.	Lot No.	Storage	Solvent	Date Received	Exp. Date
G34-120070-04	480919	≤ -10 °C	P/T Methanol		2-May-2024

### Description:

ISO 17034 -Custom Volatiles Mix,105-12, 2000 & 4,000 mg/L, 1 mL

### Container:

1 ml Ampule, Amber Glass

### Certified Values:

The certified value is based on gravimetric and volumetric preparation of this Certified Reference Material (CRM). This CRM has been confirmed by GC/MS, GC, HPLC, UPLC/HRAM-MS, UV/VIS, Enzymatic, and/or wet chemistry techniques using internally developed method(s) against independent source(s). The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2. The purity of neat materials not traceable to an ISO 17034:2016 accredited Reference Material Provider is traceable to internal analysis by GC, GC/MS, HPLC, Enzymatic, or wet chemistry techniques and compared to a National Metrological Institute such as NIST where feasible.

Compound	CAS No.	Purity (%)	Neat Material Lot No.	Concentration
2-butoxyethanol	111-76-2	99.6	311.9.2P	1986 ± 100 mg/L
diethylene glycol butyl ether	112-34-5	99.8	2323.7.2P	2008 ± 100 mg/L
propyl cellosolve	2807-30-9	99.9	1570.7.2P	1980 ± 100 mg/L
dipropylene glycol monomethyl ether	34590-94-8	99.7	2333.7.2P	2014 ± 100 mg/L
ethylene glycol	107-21-1	100	307.201.1P	1968 ± 99 mg/L
di(ethylene glycol)	111-46-6	99.5	309.7.2P	1994 ± 100 mg/L
tri(ethylene glycol)	112-27-6	99.9	310.7.2.1.1P	1974 ± 110 mg/L
4-Hydroxy-4-methyl-2-pentanone	123-42-2	98	2334.286.1P	1991 ± 110 mg/L
1,2-propanediol	57-55-6	99.5	306.9.3P	1998 ± 100 mg/L
tetraethylene glycol	112-60-7	98	3754.7.1P	3959 ± 200 mg/L

### Intended Uses:

This CRM is intended for use as a calibration standard or a quality control standard for chromatography equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various USEPA, NIOSH and ASTM methods.

Recommended storage container for ampuled products after opening is a 12 mm x 32 mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

# Certificate of Analysis

Page 2 of 3

Catalog No. G34-120070-04

Lot No. 480919

Expiration Date 2 -May-2024

$$\% \text{ Change} = 116192x^{-2.578} + 40.383e^{-0.03y}$$

where x = boiling point of the most volatile analyte in the mix (in degrees K)

y = boiling point of the solvent (in degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

This standard was prepared gravimetrically using balances calibrated with National Institute of Standards and Technology (NIST) traceable weights (NIST Test Numbers 822/273070-06, 822/275141-07, 822/278993-10). Only calibrated Class A volumetric glassware and/or calibrated syringes were used to prepare this standard. Raw materials may have been checked for stoichiometry and purity prior to use. This standard has been analyzed against an independent source.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:  $\leq -10$  °C

Once the product is opened, it should be transferred to a vial with minimum head space if the product was received in a sealed ampule.

## Glassware Calibration:

Only Class A glassware and/or calibrated syringes are used in the manufacture and quality control of standards. All glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used to perform daily checks on balances are calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to NIST. Balances are checked daily in accordance to procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 accredited metrology service.

## Homogeneity:

Homogeneity has been established in accordance with internal procedure O2-QS-011 and has a maximum uncertainty of 0.1%. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016. The homogeneity of this CRM is valid for sample sub-sizes that the end user can quantitatively reproduce.

## Hazardous Information:

Refer to MSDS.

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty:

$u = ku_c$  u = Expanded Uncertainty, k = the coverage factor at the 95% confidence level, k = 2,  $u_c$  = the combined uncertainty

$u_c = (u_{\text{char}}^2 + u_{\text{tran}}^2 + u_{\text{homo}}^2 + u_{\text{ls}}^2)^{1/2}$  where  $u_i$  are the individual uncertainty components for manufacturing, transportation, homogeneity, and shelf life. While no significant uncertainty was detected in the replicates, a minimum contribution to

Manufactured By:

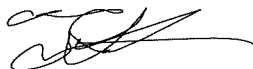


Brian Stokes

3 -May-2022

Production Chemist I

Certified By:



Tyler Sherman

14 -Jun-2022

Quality Control Chemist I

Released By:



Susan Mathews

14 -Jun-2022

Quality Control Team Lead

7290B Investment Drive • North Charleston, SC 29418  
Phone: 866.272.0932 • Fax: 866.509.5146 www.o2si.com

# Certificate of Analysis

Catalog No. G34-120070-04

Lot No. 480919

Expiration Date 2 -May-2024

uncertainty was added for homogeneity and long term stability as described in ISO Guide 35:2017.

## Expiration Information:

The stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. Studies on the short term instability have determined no contribution to instability as observed on the concentration under controlled transportation conditions. This standard is guaranteed until 2-May-2024

## Quality Standard Documentation:

- ISO/IEC 17025:2017 "General Requirements for the Competence of Testing and Calibration" - Chemical Testing - Accredited A2LA Certificate Number 3031.01
- ISO 17034:2016 "General Requirements for the Competence of Reference Material Producers" - Reference Material Production - Accredited A2LA Certificate Number 3031.02

Manufactured By:



Brian Stokes

3 -May-2022

Production Chemist I

Certified By:



Tyler Sherman

14 -Jun-2022

Quality Control Chemist I

7290B Investment Drive • North Charleston, SC 29418  
Phone: 866.272.0932 • Fax: 866.509.5146 www.o2si.com

Released By:



Susan Mathews

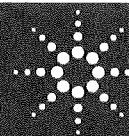
14 -Jun-2022

Quality Control Team Lead

Reagent

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**SG\_GLY\_ISTD\_00099**



## Reference Material Certificate

**Product Name:** Custom Standard      **Lot Number:** 0006670821  
**Product Number:** CUS-6046      **Lot Issue Date:** 14-Mar-2022  
**Storage Conditions:** Store at Room Temperature (15° to 30°C).      **Expiration Date:** 30-Apr-2024

Component Name	CERTIFIED VALUES			CAS#	Analyte Lot
	Concentration	Expanded	Uncertainty		
n-heptanol	5024	±	25 µg/mL	000111-70-6	RM04540

**Matrix:** methanol (methyl alcohol)

**Description:**

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

**Traceability:**

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

**Homogeneity:**

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

**Instructions for Use:**

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

**Safety:**

Refer to the Safety Data Sheet on [www.agilent.com](http://www.agilent.com) for information regarding this analytical reference material.

**Intended Use:**

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

**Expiration of Certification:**

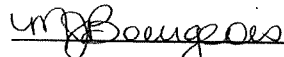
The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise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



**Maintenance of Certification:**

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

**Sample lot approver:**



Monica Bourgeois  
QMS Representative



ISO 17034 Cert  
No. AR-1936

RM was produced in accordance with the TUV/SUD registered ISO 9001:2015  
Quality Management System. Cert# 951215321

Page: 2 of 2

[www.agilent.com/quality/](http://www.agilent.com/quality/)  
GSD-QA-015.1



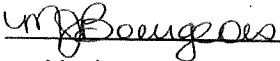
ISO 17025 Cert  
No. AT-1937

**Maintenance of Certification:**

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

---

**Sample lot approver:**

  
Monica Bourgeois  
QMS Representative



ISO 17034 Cert  
No. AR-1936

RM was produced in accordance with the TUV/SUD registered ISO 9001:2015  
Quality Management System. Cert# 951215321

Page: 2 of 2

[www.agilent.com/quality/](http://www.agilent.com/quality/)  
CSD-QA-015.1



ISO 17025 Cert  
No. AT-1937

Reagent

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**SG\_GlyICV\_00052**



ISO/IEC 17025 Accredited  
Chemical Testing Lab  
Cert. No. 3031.01



ISO 17034 Accredited  
Reference Material Producer  
Cert. No. 3031.02

Rev 0

## Certificate of Analysis

Page 1 of 3

Catalog No.	Lot No.	Storage	Solvent	Date Received	Exp. Date
G34-120070-04-SS	454407	≤ -10 °C	P/T Methanol		1-Jul-2023

### Description:

ISO 17034 -Custom Volatiles Mix, 105-12, Second Source, 2000 & 4,000 mg/L, 1 mL

### Container:

1 ml Ampule, Amber Glass

### Certified Values:

The certified value is based on gravimetric and volumetric preparation of this Certified Reference Material (CRM). This CRM has been confirmed by GC/MS, GC, HPLC, UPLC/HRAM-MS, UV/VIS, Enzymatic, and/or wet chemistry techniques using internally developed method(s) against independent source(s). The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2. The purity of neat materials not traceable to an ISO 17034:2016 accredited Reference Material Provider is traceable to internal analysis by GC, GC/MS, HPLC, Enzymatic, or wet chemistry techniques and compared to a National Metrological Institute such as NIST where feasible.

Compound	CAS No.	Purity (%)	Neat Material Lot No.	Concentration
2-butoxyethanol	111-76-2	99.5	311.7.1.1S	1994 ± 100 mg/L
diethylene glycol butyl ether	112-34-5	99.8	2323.7.2.1S	1992 ± 100 mg/L
2-propoxyethanol	2807-30-9	99.5	1570.7.1S	1998 ± 110 mg/L
dipropylene glycol monomethyl ether	34590-94-8	99.7	2333.7.2.1S	1998 ± 100 mg/L
ethylene glycol	107-21-1	100	307.201.1.1S	2016 ± 100 mg/L
di(ethylene glycol)	111-46-6	99.9	309.7.1.1S	1998 ± 100 mg/L
tri(ethylene glycol)	112-27-6	99.9	310.7.3.1S	2010 ± 100 mg/L
4-Hydroxy-4-methyl-2-pentanone	123-42-2	98	2334.286.1.1S	2003 ± 110 mg/L
1,2-propanediol	57-55-6	99.6	306.370.1.1S	2004 ± 110 mg/L
tetraethylene glycol	112-60-7	98	3754.7.1.1S	4049 ± 200 mg/L

### Intended Uses:

This CRM is intended for use as a calibration standard or a quality control standard for chromatography equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various USEPA, NIOSH and ASTM methods.

Recommended storage container for ampuled products after opening is a 12 mm x 32 mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

# Certificate of Analysis

Page 2 of 2

Catalog No. G34-120070-04-SS

Lot No. 454407

Expiration Date 1 -Jul-2023

$$\% \text{ Change} = 116192x^{-2.578} + 40.383e^{-0.03y}$$

where x = boiling point of the most volatile analyte in the mix (in degrees K)  
y = boiling point of the solvent (in degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

This standard was prepared gravimetrically using balances calibrated with National Institute of Standards and Technology (NIST) traceable weights (NIST Test Numbers 822/273070-06, 822/275141-07, 822/278993-10). Only calibrated Class A volumetric glassware and/or calibrated syringes were used to prepare this standard. Raw materials may have been checked for stoichiometry and purity prior to use. This standard has been analyzed against an independent source.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:  $\leq -10$  °C  
Once the product is opened, it should be transferred to a vial with minimum head space if the product was received in a sealed ampule.

## Glassware Calibration:

Only Class A glassware and/or calibrated syringes are used in the manufacture and quality control of standards. All glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used to perform daily checks on balances are calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to NIST. Balances are checked daily in accordance to procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 accredited metrology service.

## Homogeneity:

Homogeneity has been established in accordance with internal procedure O2-QS-011 and has a maximum uncertainty of 0.1%. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016. The homogeneity of this CRM is valid for sample sub-sizes that the end user can quantitatively reproduce.

## Hazardous Information:

Refer to MSDS.

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty:  
 $u = ku_c$  u = Expanded Uncertainty, k = the coverage factor at the 95% confidence level, k = 2,  $u_c$  = the combined uncertainty  
 $u_c = (u_{\text{char}}^2 + u_{\text{tran}}^2 + u_{\text{homo}}^2 + u_{\text{its}}^2)^{1/2}$  where  $u_i$  are the individual uncertainty components for manufacturing, transportation, homogeneity, and shelf life. While no significant uncertainty was detected in the replicates, a minimum contribution to

Manufactured By:




Jared Ball

1 -Jul-2021

Production Chemist I

Certified By:



Claire Desrochers

7 -Jul-2021

Quality Control Chemist I

Released By:



Susan Mathews

8 -Jul-2021

Quality Control Team Lead

7290B Investment Drive • North Charleston, SC 29418  
Phone: 866.272.0932 • Fax: 866.509.5146 www.o2si.com

# Certificate of Analysis

Catalog No. G34-120070-04-SS

Lot No. 454407

Expiration Date 1-Jul-2023

uncertainty was added for homogeneity and long term stability as described in ISO Guide 35:2017.

## Expiration Information:

The stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. Studies on the short term instability have determined no contribution to instability as observed on the concentration under controlled transportation conditions. This standard is guaranteed until 1-Jul-2023

## Quality Standard Documentation:

- ISO/IEC 17025:2017 "General Requirements for the Competence of Testing and Calibration" - Chemical Testing - Accredited A2LA Certificate Number 3031.01
- ISO 17034:2016 "General Requirements for the Competence of Reference Material Producers" - Reference Material Production - Accredited A2LA Certificate Number 3031.02

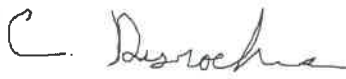
Manufactured By:



Jared Ball  
1-Jul-2021

Production Chemist I

Certified By:



Claire Desrochers  
7-Jul-2021

Quality Control Chemist I

Released By:



Susan Mathews  
8-Jul-2021

Quality Control Team Lead

7290B Investment Drive • North Charleston, SC 29418  
Phone: 866.272.0932 • Fax: 866.509.5146 www.o2si.com



# Method 8015C - DAI Glycols

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Glycols -Direct Injection (GC/FID) -  
Method 8015C



FORM III  
GC SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Savannah Job No.: 580-121536-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 22GL31012.D  
 Lab ID: LCS 680-757531/12 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
2-(2-Butoxyethoxy) ethanol	20.0	20.7	104	50-150	

# Column to be used to flag recovery and RPD values  
 FORM III 8015C GLY

FORM III  
GC SEMI VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Savannah Job No.: 580-121536-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 22GL31013.D  
 Lab ID: LCSD 680-757531/13 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
2-(2-Butoxyethoxy) ethanol	20.0	21.6	108	4	50	50-150	

# Column to be used to flag recovery and RPD values  
 FORM III 8015C GLY

FORM IV  
GC SEMI VOA METHOD BLANK SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121536-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: MB 680-757531/16  
 Matrix: Water Date Extracted: \_\_\_\_\_  
 Lab File ID: (1) 22GL31016.D Lab File ID: (2) \_\_\_\_\_  
 Date Analyzed: (1) 12/31/2022 18:08 Date Analyzed: (2) \_\_\_\_\_  
 Instrument ID: (1) CVGG2 Instrument ID: (2) \_\_\_\_\_  
 GC Column: (1) J&W DB WAX ID: 0.45 (mm) GC Column: (2) \_\_\_\_\_ ID: \_\_\_\_\_

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 680-757531/12	12/31/2022 16:37	
	LCSD 680-757531/13	12/31/2022 17:00	
AF-RHMW12A-WGN01LF-2212W 3	580-121536-1	12/31/2022 20:46	
AF-RHMW12A-WGFD01LF-2212 W3	580-121536-2	12/31/2022 21:09	

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

Lab Name: Eurofins Savannah Job No.: 580-121536-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 680-757531/7 Date Analyzed: 12/31/2022 14:44  
 Instrument ID: CVGG2 GC Column: J&W DB WAX ID: 0.45 (mm)  
 Lab File ID (Standard): 22GL31007.D Heated Purge: (Y/N) N  
 Calibration ID: 88767

		nHPA					
		AREA #	RT #	#	RT #	#	RT #
INITIAL CALIBRATION MID-POINT		7355756	5.52				
UPPER LIMIT		14711512	6.02				
LOWER LIMIT		3677878	5.02				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 680-757531/11		7043943	5.52				
LCS 680-757531/12		7202300	5.53				
LCSD 680-757531/13		7169170	5.52				
MB 680-757531/16		7059155	5.53				
580-121536-1	AF-RHMW12A-WGN01LF-2212W3	7337024	5.53				
580-121536-2	AF-RHMW12A-WGFD01LF-2212W3	7573608	5.53				
CCV 680-757531/28		7629121	5.53				
CCV 680-757531/38		7257216	5.53				

nHPA = n-Heptyl Alcohol

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 I  
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-121536-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AF-RHMW12A-WGN01LF-2212W3 Lab Sample ID: 580-121536-1  
 Matrix: Water Lab File ID: 22GL31023.D  
 Analysis Method: 8015C GLY Date Collected: 12/21/2022 10:45  
 Extraction Method: \_\_\_\_\_ Date Extracted: \_\_\_\_\_  
 Sample wt/vol: 1(mL) Date Analyzed: 12/31/2022 20:46  
 Con. Extract Vol.: 1(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: J&W DB WAX ID: 0.45(mm)  
 % Moisture: \_\_\_\_\_ % Solids: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Cleanup Factor: \_\_\_\_\_  
 Analysis Batch No.: 757531 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	3.0	U	5.0	3.0	1.1

Eurofins Savannah  
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31023.D  
 Lims ID: 580-121536-C-1  
 Client ID: AF-RHMW12A-WGN01LF-2212W3  
 Sample Type: Client  
 Inject. Date: 31-Dec-2022 20:46:46      ALS Bottle#: 23      Worklist Smp#: 23  
 Injection Vol: 1.0 ul      Dil. Factor: 1.0000  
 Sample Info: 680-0083061-023  
 Operator ID:      Instrument ID: CVGG2

Method: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\8015\_GLY\_VGG.m  
 Limit Group: 8015C\_DAI  
 Last Update: 03-Jan-2023 13:01:01      Calib Date: 31-Dec-2022 15:52:08  
 Integrator: Falcon  
 Quant Method: Internal Standard      Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31010.D  
 Column 1 : J&W DB WAX ( 0.45 mm)      Det: GC FID2B  
 Process Host: CTX1607

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
--------------	------------------	------------------	----------	--------------------	-------

\* 4 n-Heptyl Alcohol  
 5.531    5.524    0.007    7337024    50.0

**Reagents:**

SG\_GLY\_ISTD\_00099      Amount Added: 10.00      Units: uL      Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31023.D

Injection Date: 31-Dec-2022 20:46:46

Instrument ID: CVGG2

Operator ID:

Lims ID: 580-121536-C-1

Lab Sample ID: 680-121536-1

Worklist Smp#: 23

Client ID: AF-RHMW12A-WGN01LF-2212W3

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

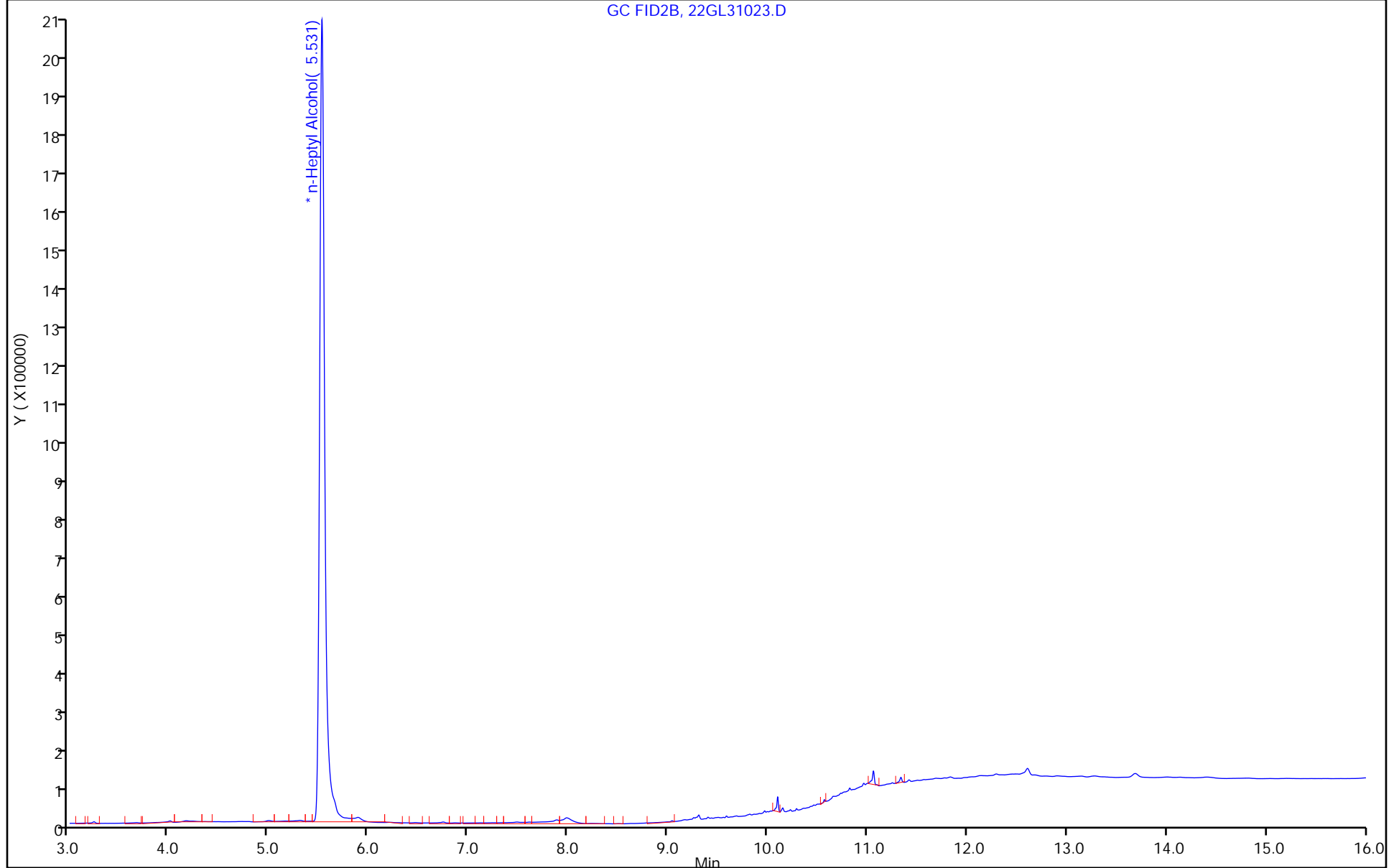
ALS Bottle#: 23

Method: 8015\_GLY\_VGG

Limit Group: 8015C\_DAI

Column: J&W DB WAX (0.45 mm)

GC FID2B, 22GL31023.D







Eurofins Savannah  
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31024.D  
 Lims ID: 580-121536-C-2  
 Client ID: AF-RHMW12A-WGFD01LF-2212W3  
 Sample Type: Client  
 Inject. Date: 31-Dec-2022 21:09:24      ALS Bottle#: 24      Worklist Smp#: 24  
 Injection Vol: 1.0 ul      Dil. Factor: 1.0000  
 Sample Info: 680-0083061-024  
 Operator ID:      Instrument ID: CVGG2

Method: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\8015\_GLY\_VGG.m  
 Limit Group: 8015C\_DAI  
 Last Update: 03-Jan-2023 13:01:01      Calib Date: 31-Dec-2022 15:52:08  
 Integrator: Falcon  
 Quant Method: Internal Standard      Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31010.D  
 Column 1 : J&W DB WAX ( 0.45 mm)      Det: GC FID2B  
 Process Host: CTX1607

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
--------------	------------------	------------------	----------	--------------------	-------

\* 4 n-Heptyl Alcohol  
 5.530    5.524    0.006    7573608    50.0

**Reagents:**

SG\_GLY\_ISTD\_00099      Amount Added: 10.00      Units: uL      Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31024.D

Injection Date: 31-Dec-2022 21:09:24

Instrument ID: CVGG2

Operator ID:

Lims ID: 580-121536-C-2

Lab Sample ID: 680-121536-2

Worklist Smp#: 24

Client ID: AF-RHMW12A-WGFD01LF-2212W3

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

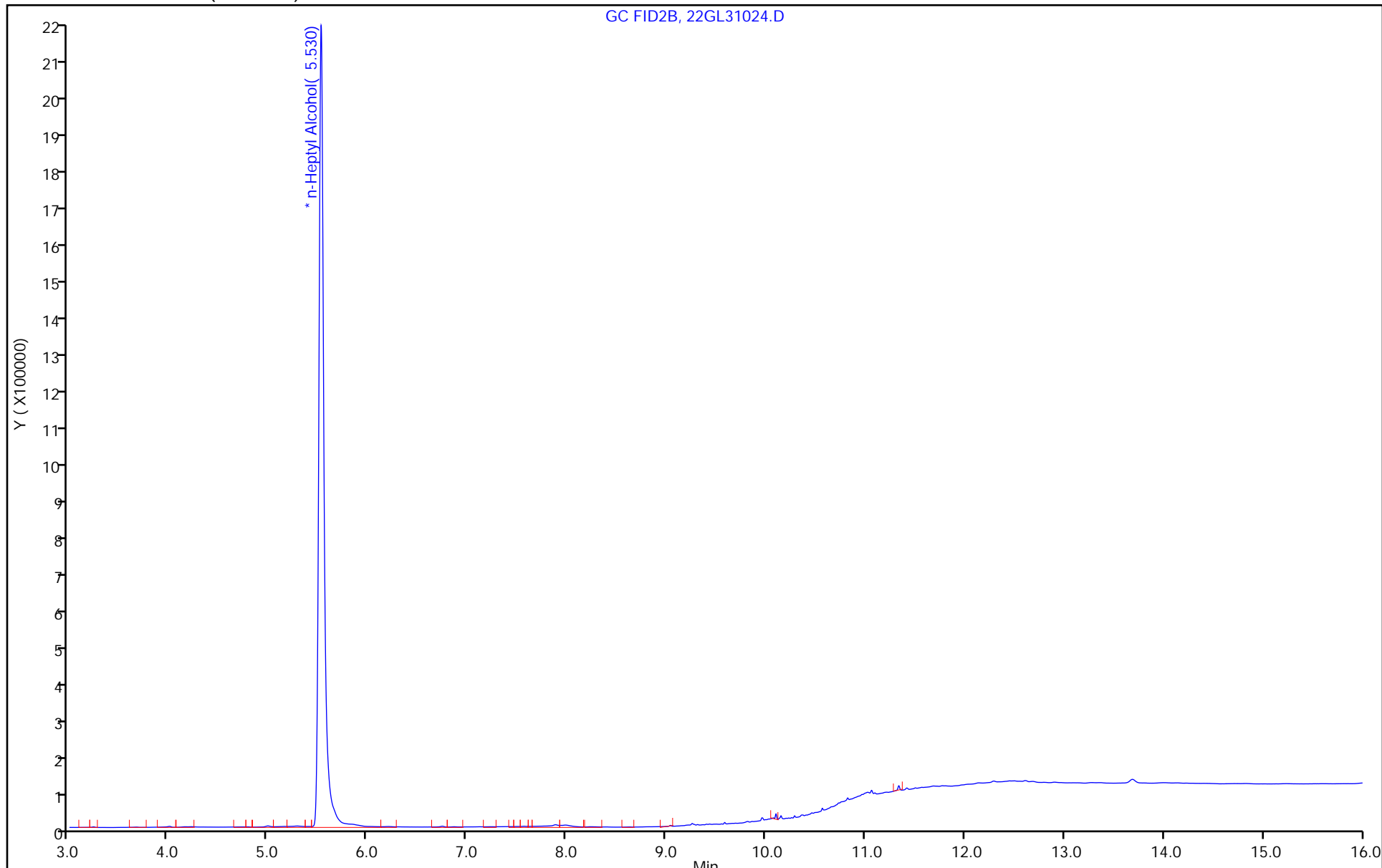
ALS Bottle#: 24

Method: 8015\_GLY\_VGG

Limit Group: 8015C\_DAI

Column: J&W DB WAX (0.45 mm)

GC FID2B, 22GL31024.D



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

Lab Name: Eurofins Savannah Job No.: 580-121536-1 Analy Batch No.: 757531

SDG No.: \_\_\_\_\_

Instrument ID: CVGG2 GC Column: J&W DB WAX ID: 0.45 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/31/2022 13:58 Calibration End Date: 12/31/2022 15:52 Calibration ID: 88767

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-757531/5	22GL31005.D
Level 2	IC 680-757531/6	22GL31006.D
Level 3	ICIS 680-757531/7	22GL31007.D
Level 4	IC 680-757531/8	22GL31008.D
Level 5	IC 680-757531/9	22GL31009.D
Level 6	IC 680-757531/10	22GL31010.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Ethanol, 2-propoxy	0.5862 0.5626	0.5635	0.5620	0.5581	0.5562	Ave		0.564 8			1.9		20.0				
4-Hydroxy-4-methyl-2-pentanone	0.6161 0.6019	0.6015	0.5969	0.5926	0.5943	Ave		0.600 6			1.4		20.0				
2-Butoxyethanol	0.6407 0.6082	0.6158	0.6095	0.6037	0.6025	Ave		0.613 4			2.3		20.0				
Dipropylene Glycol Methyl Ether	0.0455 0.0525	0.0516	0.0508	0.0509	0.0517	Ave		0.050 5			5.1		20.0				
Propylene glycol	0.4082 0.4455	0.4298	0.4304	0.4231	0.4386	Ave		0.429 3			3.0		20.0				
Ethylene glycol	0.3645 0.3649	0.3579	0.3642	0.3514	0.3612	Ave		0.360 7			1.5		20.0				
2-(2-Butoxyethoxy)ethanol	0.5960 0.5789	0.5772	0.5684	0.5617	0.5713	Ave		0.575 6			2.0		20.0				
2,2'-Oxybisethanol	0.3917 0.3701	0.3684	0.3645	0.3548	0.3667	Ave		0.369 4			3.3		20.0				
Triethylene Glycol	0.3606 0.3539	0.3485	0.3499	0.3388	0.3517	Ave		0.350 6			2.0		20.0				
Tetraethylene Glycol	0.3541 0.3620	0.3537	0.3579	0.3478	0.3622	Ave		0.356 3			1.6		20.0				

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

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

Lab Name: Eurofins Savannah Job No.: 580-121536-1 Analy Batch No.: 757531

SDG No.: \_\_\_\_\_

Instrument ID: CVGG2 GC Column: J&W DB WAX ID: 0.45 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/31/2022 13:58 Calibration End Date: 12/31/2022 15:52 Calibration ID: 88767

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-757531/5	22GL31005.D
Level 2	IC 680-757531/6	22GL31006.D
Level 3	ICIS 680-757531/7	22GL31007.D
Level 4	IC 680-757531/8	22GL31008.D
Level 5	IC 680-757531/9	22GL31009.D
Level 6	IC 680-757531/10	22GL31010.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Ethanol, 2-propoxy	nHPA	Ave	385924 7756623	786791	1653614	4136966	6296632	5.00 100	10.0	20.0	50.0	80.0
4-Hydroxy-4-methyl-2-pentanone	nHPA	Ave	405601 8299722	839913	1756349	4393164	6728367	5.00 100	10.0	20.0	50.0	80.0
2-Butoxyethanol	nHPA	Ave	421814 8385924	859832	1793425	4475050	6820298	5.00 100	10.0	20.0	50.0	80.0
Dipropylene Glycol Methyl Ether	nHPA	Ave	29930 724394	72069	149471	377456	585703	5.00 100	10.0	20.0	50.0	80.0
Propylene glycol	nHPA	Ave	268725 6142798	600061	1266345	3136454	4965325	5.00 100	10.0	20.0	50.0	80.0
Ethylene glycol	nHPA	Ave	239946 5031863	499748	1071635	2605143	4089519	5.00 100	10.0	20.0	50.0	80.0
2-(2-Butoxyethoxy)ethanol	nHPA	Ave	392369 7982407	805992	1672402	4164185	6467596	5.00 100	10.0	20.0	50.0	80.0
2,2'-Oxybisethanol	nHPA	Ave	257871 5103471	514393	1072392	2630014	4151063	5.00 100	10.0	20.0	50.0	80.0
Triethylene Glycol	nHPA	Ave	237402 4879102	486543	1029507	2511228	3981926	5.00 100	10.0	20.0	50.0	80.0
Tetraethylene Glycol	nHPA	Ave	466208 9983332	987745	2106139	5156848	8201061	10.0 200	20.0	40.0	100	160

Curve Type Legend

Ave = Average ISTD

FORM VI  
GC SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
READBACK PERCENT ERROR

Lab Name: Eurofins Savannah Job No.: 580-121536-1 Analy Batch No.: 757531

SDG No.: \_\_\_\_\_

Instrument ID: CVGG2 GC Column: J&W DB WAX ID: 0.45 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/31/2022 13:58 Calibration End Date: 12/31/2022 15:52 Calibration ID: 88767

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-757531/5	22GL31005.D
Level 2	IC 680-757531/6	22GL31006.D
Level 3	ICIS 680-757531/7	22GL31007.D
Level 4	IC 680-757531/8	22GL31008.D
Level 5	IC 680-757531/9	22GL31009.D
Level 6	IC 680-757531/10	22GL31010.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Ethanol, 2-propoxy	3.8	-0.2	-0.5	-1.2	-1.5	-0.4	20	20	20	20	20	20
4-Hydroxy-4-methyl-2-pentanone	2.6	0.2	-0.6	-1.3	-1.0	0.2	20	20	20	20	20	20
2-Butoxyethanol	4.5	0.4	-0.6	-1.6	-1.8	-0.8	20	20	20	20	20	20
Dipropylene Glycol Methyl Ether	-10.0	2.2	0.6	0.8	2.4	4.0	20	20	20	20	20	20
Propylene glycol	-4.9	0.1	0.3	-1.4	2.2	3.8	20	20	20	20	20	20
Ethylene glycol	1.0	-0.8	1.0	-2.6	0.2	1.2	20	20	20	20	20	20
2-(2-Butoxyethoxy)ethanol	3.5	0.3	-1.3	-2.4	-0.7	0.6	20	20	20	20	20	20
2,2'-Oxybisethanol	6.0	-0.3	-1.3	-3.9	-0.7	0.2	20	20	20	20	20	20
Triethylene Glycol	2.9	-0.6	-0.2	-3.4	0.3	0.9	20	20	20	20	20	20
Tetraethylene Glycol	-0.6	-0.7	0.5	-2.4	1.7	1.6	20	20	20	20	20	20

Eurofins Savannah  
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31005.D  
 Lims ID: ic g1  
 Client ID:  
 Sample Type: IC Calib Level: 1  
 Inject. Date: 31-Dec-2022 13:58:39 ALS Bottle#: 5 Worklist Smp#: 5  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 680-0083061-005  
 Operator ID: Instrument ID: CVGG2  
 Sublist: chrom-8015\_GLY\_VGG\*sub2  
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\8015\_GLY\_VGG.m  
 Limit Group: 8015C\_DAI  
 Last Update: 03-Jan-2023 12:53:26 Calib Date: 31-Dec-2022 15:52:08  
 Integrator: Falcon  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31010.D  
 Column 1 : J&W DB WAX ( 0.45 mm) Det: GC FID2B  
 Process Host: CTX1607

First Level Reviewer: SWK1 Date: 03-Jan-2023 12:51:49

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy	3.810	3.811	-0.001	385924	5.00	5.19
2 4-Hydroxy-4-methyl-2-pentanone	4.625	4.625	0.000	405601	5.00	5.13
3 2-Butoxyethanol	4.988	4.991	-0.003	421814	5.00	5.22
* 4 n-Heptyl Alcohol	5.521	5.524	-0.003	6583345	50.0	50.0
5 Dipropylene Glycol Methyl Ether	6.634	6.637	-0.003	29930	5.00	4.50
6 Propylene glycol	7.568	7.545	0.023	268725	5.00	4.75
7 Ethylene glycol	8.006	7.997	0.009	239946	5.00	5.05
8 2-(2-Butoxyethoxy)ethanol	9.402	9.401	0.001	392369	5.00	5.18
9 2,2'-Oxybisethanol	10.102	10.102	0.000	257871	5.00	5.30
10 Triethylene Glycol	11.064	11.064	0.000	237402	5.00	5.14
11 Tetraethylene Glycol	12.614	12.614	0.000	466208	10.0	9.94

**QC Flag Legend**  
Processing Flags

Reagents:

SG\_Gly\_CAL\_00052

Amount Added: 2.50

Units: uL

SG\_GLY\_ISTD\_00099

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31005.D

Injection Date: 31-Dec-2022 13:58:39

Instrument ID: CVGG2

Operator ID:

Lims ID: ic g1

Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul

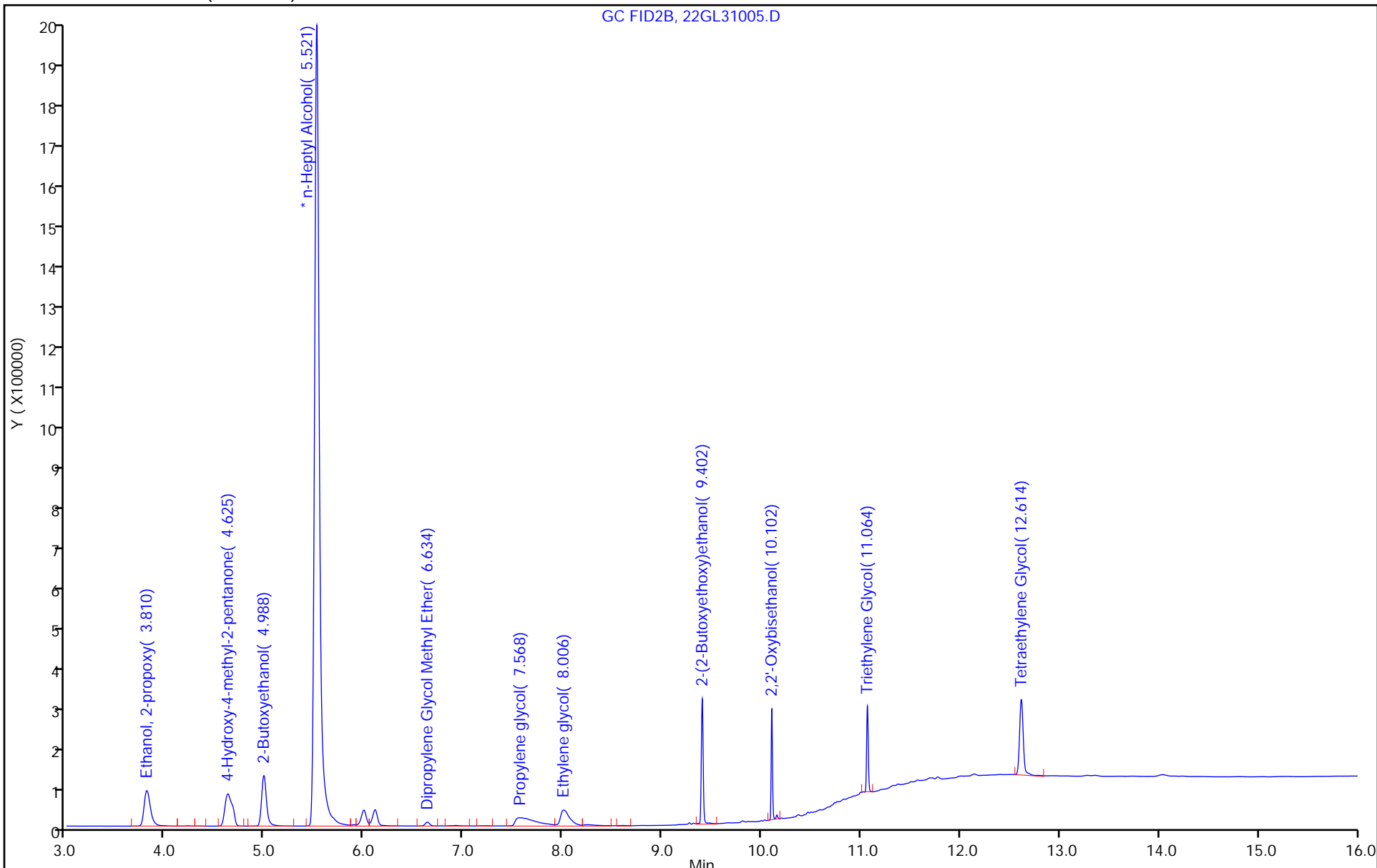
Dil. Factor: 1.0000

ALS Bottle#: 5

Method: 8015\_GLY\_VGG

Limit Group: 8015C\_DAI

Column: J&W DB WAX (0.45 mm)





Eurofins Savannah  
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31006.D  
 Lims ID: ic g2  
 Client ID:  
 Sample Type: IC Calib Level: 2  
 Inject. Date: 31-Dec-2022 14:21:17 ALS Bottle#: 6 Worklist Smp#: 6  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 680-0083061-006  
 Operator ID: Instrument ID: CVGG2  
 Sublist: chrom-8015\_GLY\_VGG\*sub2  
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\8015\_GLY\_VGG.m  
 Limit Group: 8015C\_DAI  
 Last Update: 03-Jan-2023 12:53:26 Calib Date: 31-Dec-2022 15:52:08  
 Integrator: Falcon  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31010.D  
 Column 1 : J&W DB WAX ( 0.45 mm) Det: GC FID2B  
 Process Host: CTX1607

First Level Reviewer: SWK1 Date: 03-Jan-2023 12:51:55

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy	3.819	3.811	0.008	786791	10.0	9.98
2 4-Hydroxy-4-methyl-2-pentanone	4.630	4.625	0.005	839913	10.0	10.0
3 2-Butoxyethanol	4.995	4.991	0.004	859832	10.0	10.0
* 4 n-Heptyl Alcohol	5.525	5.524	0.001	6981355	50.0	50.0
5 Dipropylene Glycol Methyl Ether	6.639	6.637	0.002	72069	10.0	10.2
6 Propylene glycol	7.563	7.545	0.018	600061	10.0	10.0
7 Ethylene glycol	8.000	7.997	0.003	499748	10.0	9.92
8 2-(2-Butoxyethoxy)ethanol	9.401	9.401	0.000	805992	10.0	10.0
9 2,2'-Oxybisethanol	10.102	10.102	0.000	514393	10.0	9.97
10 Triethylene Glycol	11.065	11.064	0.001	486543	10.0	9.94
11 Tetraethylene Glycol	12.615	12.614	0.001	987745	20.0	19.9

QC Flag Legend  
Processing Flags

Reagents:

SG\_Gly\_CAL\_00052

Amount Added: 5.00

Units: uL

SG\_GLY\_ISTD\_00099

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31006.D

Injection Date: 31-Dec-2022 14:21:17

Instrument ID: CVGG2

Operator ID:

Lims ID: ic g2

Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul

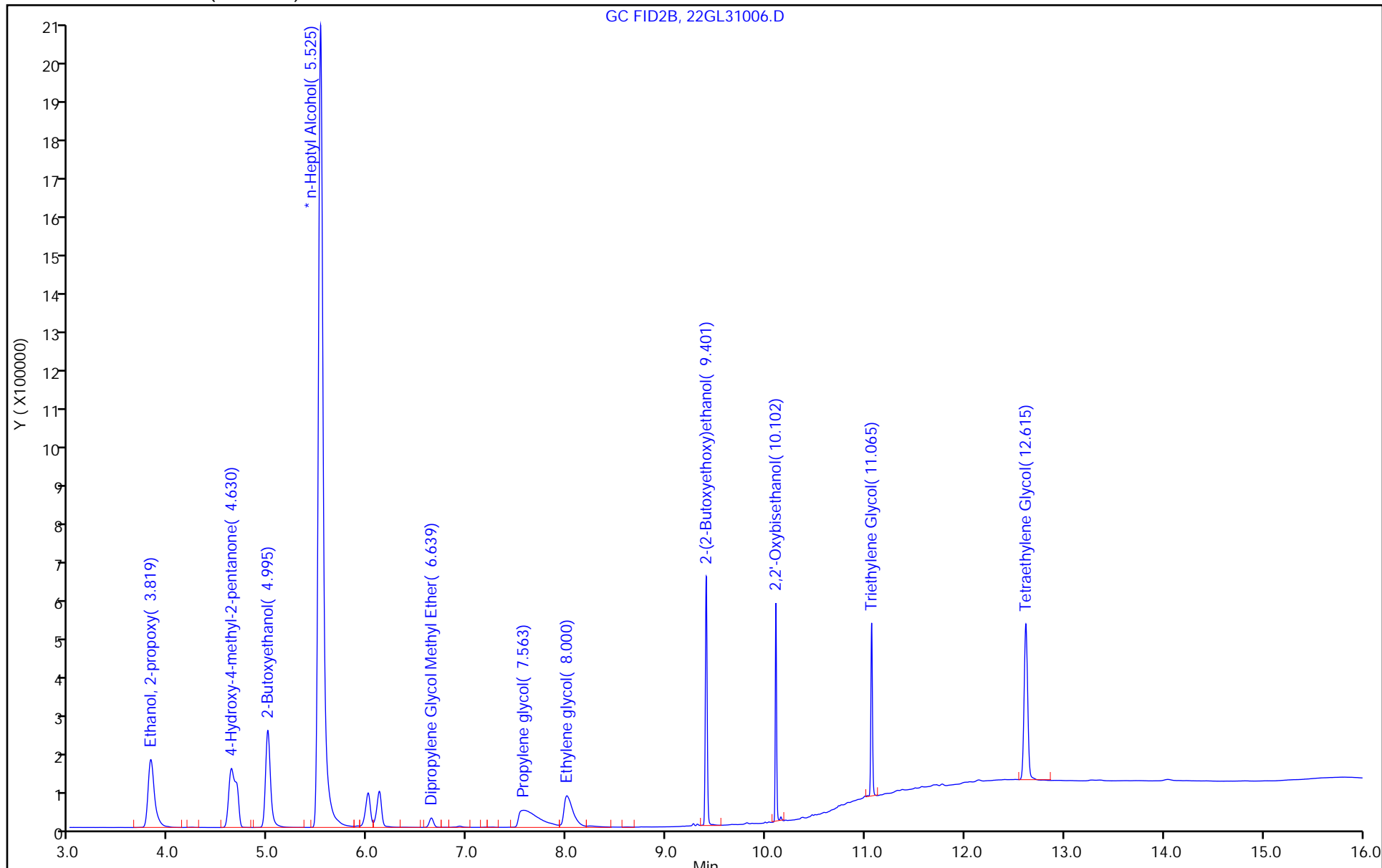
Dil. Factor: 1.0000

ALS Bottle#: 6

Method: 8015\_GLY\_VGG

Limit Group: 8015C\_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah  
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31007.D  
 Lims ID: icis g3  
 Client ID:  
 Sample Type: ICIS Calib Level: 3  
 Inject. Date: 31-Dec-2022 14:44:01 ALS Bottle#: 7 Worklist Smp#: 7  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 680-0083061-007  
 Operator ID: Instrument ID: CVGG2  
 Sublist: chrom-8015\_GLY\_VGG\*sub2  
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\8015\_GLY\_VGG.m  
 Limit Group: 8015C\_DAI  
 Last Update: 03-Jan-2023 12:53:27 Calib Date: 31-Dec-2022 15:52:08  
 Integrator: Falcon  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31010.D  
 Column 1 : J&W DB WAX ( 0.45 mm) Det: GC FID2B  
 Process Host: CTX1607

First Level Reviewer: SWK1

Date: 03-Jan-2023 12:52:02

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
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1 Ethanol, 2-propoxy	3.811	3.811	0.000	1653614	20.0	19.9
2 4-Hydroxy-4-methyl-2-pentanone	4.622	4.622	0.000	1756349	20.0	19.9
3 2-Butoxyethanol	4.989	4.989	0.000	1793425	20.0	19.9
* 4 n-Heptyl Alcohol	5.520	5.520	0.000	7355756	50.0	50.0
5 Dipropylene Glycol Methyl Ether	6.634	6.634	0.000	149471	20.0	20.1
6 Propylene glycol	7.565	7.565	0.000	1266345	20.0	20.1
7 Ethylene glycol	7.999	7.999	0.000	1071635	20.0	20.2
8 2-(2-Butoxyethoxy)ethanol	9.401	9.401	0.000	1672402	20.0	19.7
9 2,2'-Oxybisethanol	10.102	10.102	0.000	1072392	20.0	19.7
10 Triethylene Glycol	11.064	11.064	0.000	1029507	20.0	20.0
11 Tetraethylene Glycol	12.614	12.614	0.000	2106139	40.0	40.2

### QC Flag Legend

Processing Flags

Reagents:

SG\_Gly\_CAL\_00052

Amount Added: 10.00

Units: uL

SG\_GLY\_ISTD\_00099

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31007.D

Injection Date: 31-Dec-2022 14:44:01

Instrument ID: CVGG2

Operator ID:

Lims ID: icis g3

Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul

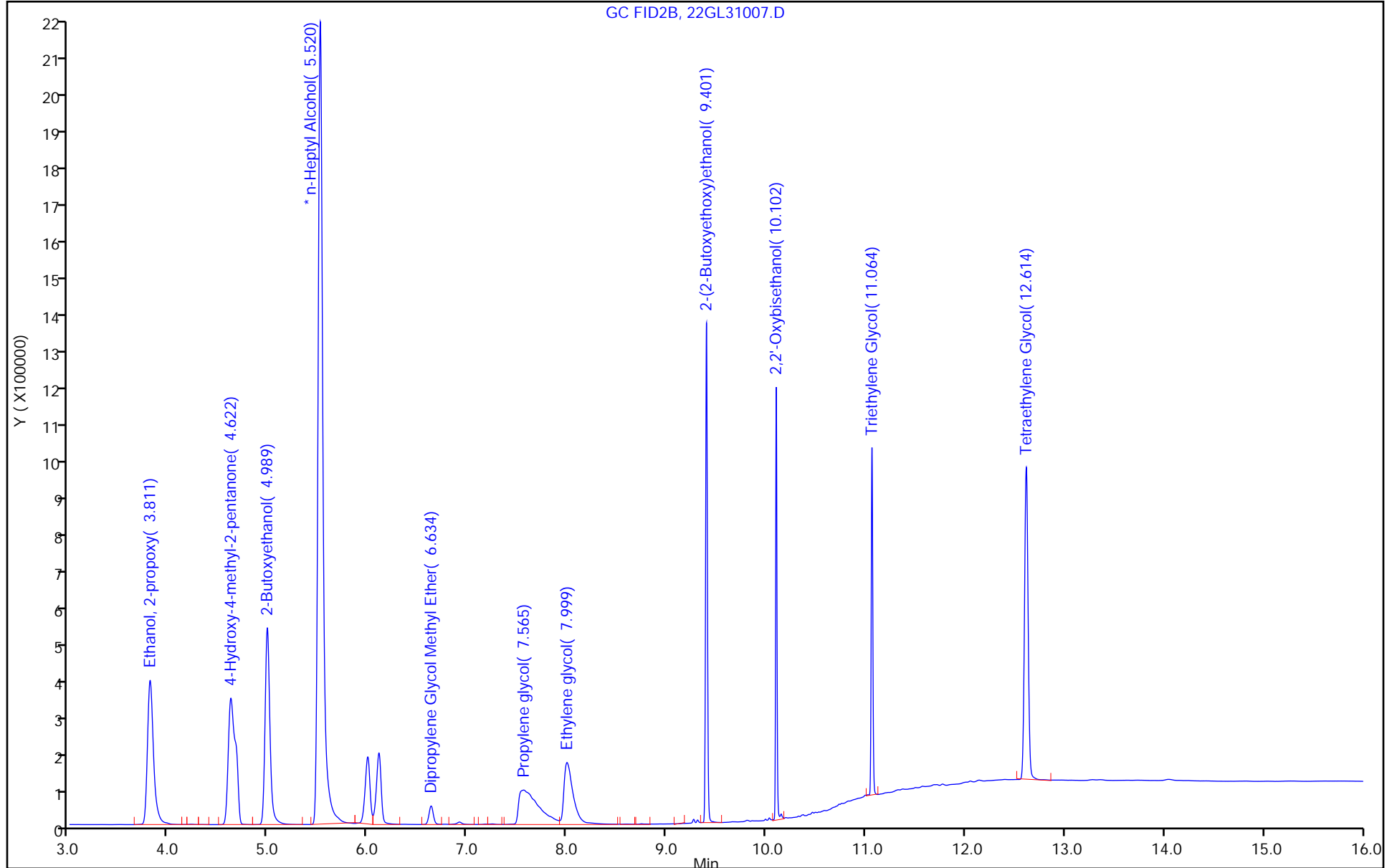
Dil. Factor: 1.0000

ALS Bottle#: 7

Method: 8015\_GLY\_VGG

Limit Group: 8015C\_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah  
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31008.D  
 Lims ID: ic g4  
 Client ID:  
 Sample Type: IC Calib Level: 4  
 Inject. Date: 31-Dec-2022 15:06:40 ALS Bottle#: 8 Worklist Smp#: 8  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 680-0083061-008  
 Operator ID: Instrument ID: CVGG2  
 Sublist: chrom-8015\_GLY\_VGG\*sub2  
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\8015\_GLY\_VGG.m  
 Limit Group: 8015C\_DAI  
 Last Update: 03-Jan-2023 12:53:28 Calib Date: 31-Dec-2022 15:52:08  
 Integrator: Falcon  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31010.D  
 Column 1 : J&W DB WAX ( 0.45 mm) Det: GC FID2B  
 Process Host: CTX1607

First Level Reviewer: SWK1 Date: 03-Jan-2023 12:52:17

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy	3.811	3.811	0.000	4136966	50.0	49.4
2 4-Hydroxy-4-methyl-2-pentanone	4.625	4.625	0.000	4393164	50.0	49.3
3 2-Butoxyethanol	4.991	4.991	0.000	4475050	50.0	49.2
* 4 n-Heptyl Alcohol	5.524	5.524	0.000	7413184	50.0	50.0
5 Dipropylene Glycol Methyl Ether	6.637	6.637	0.000	377456	50.0	50.4
6 Propylene glycol	7.545	7.545	0.000	3136454	50.0	49.3 M
7 Ethylene glycol	7.997	7.997	0.000	2605143	50.0	48.7 M
8 2-(2-Butoxyethoxy)ethanol	9.401	9.401	0.000	4164185	50.0	48.8
9 2,2'-Oxybisethanol	10.102	10.102	0.000	2630014	50.0	48.0
10 Triethylene Glycol	11.064	11.064	0.000	2511228	50.0	48.3
11 Tetraethylene Glycol	12.614	12.614	0.000	5156848	100.0	97.6

QC Flag Legend  
Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG\_Gly\_CAL\_00052

Amount Added: 25.00

Units: uL

SG\_GLY\_ISTD\_00099

Amount Added: 10.00

Units: uL

Run Reagent



Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31008.D

Injection Date: 31-Dec-2022 15:06:40

Instrument ID: CVGG2

Operator ID:

Lims ID: ic g4

Worklist Smp#: 8

Client ID:

Injection Vol: 1.0 ul

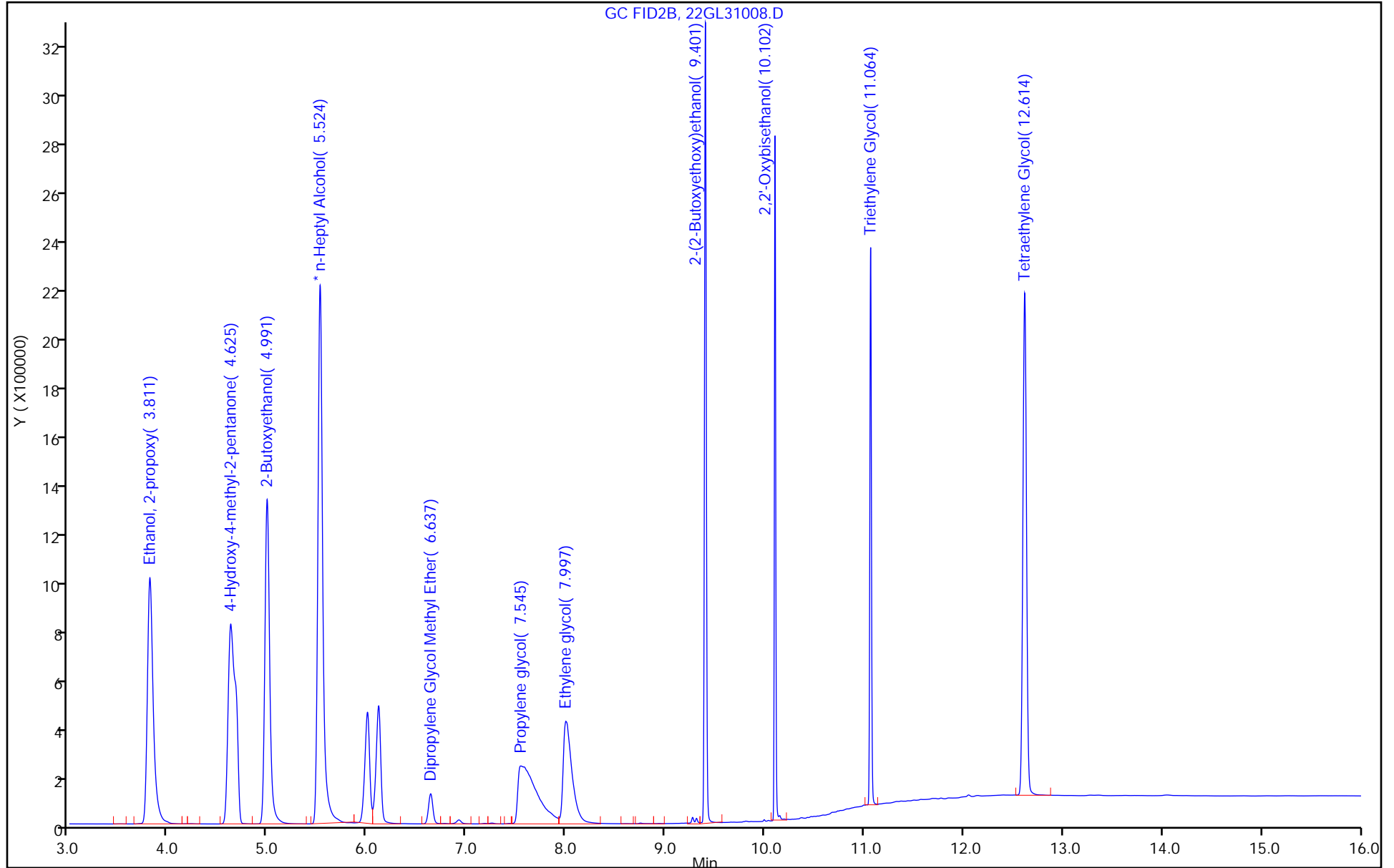
Dil. Factor: 1.0000

ALS Bottle#: 8

Method: 8015\_GLY\_VGG

Limit Group: 8015C\_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

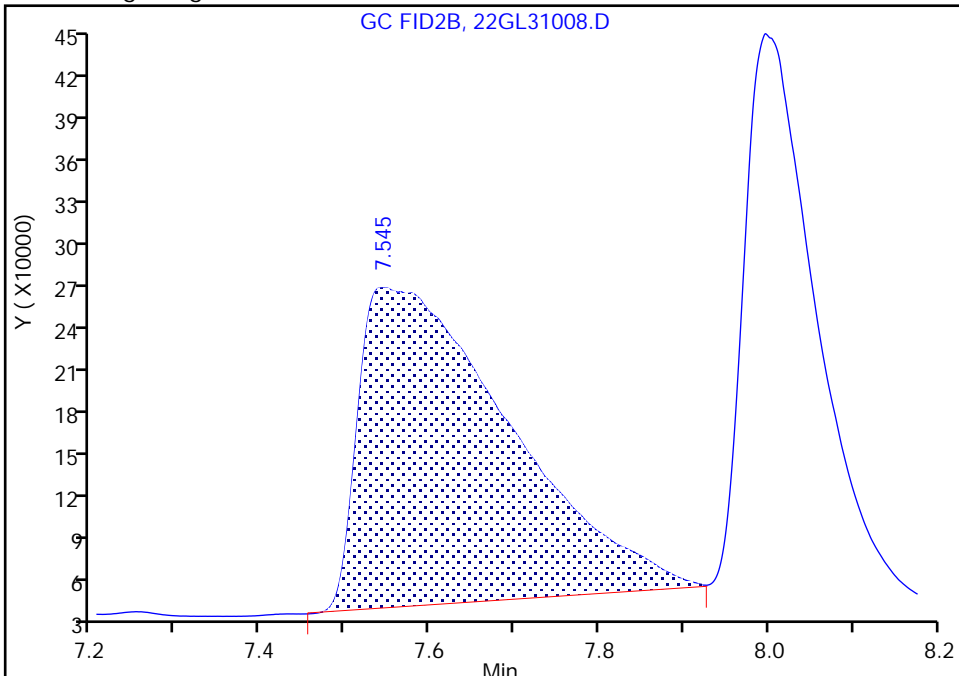
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31008.D  
Injection Date: 31-Dec-2022 15:06:40 Instrument ID: CVGG2  
Lims ID: ic g4  
Client ID:  
Operator ID: ALS Bottle#: 8 Worklist Smp#: 8  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: 8015\_GLY\_VGG Limit Group: 8015C\_DAI  
Column: J&W DB WAX ( 0.45 mm) Detector: GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

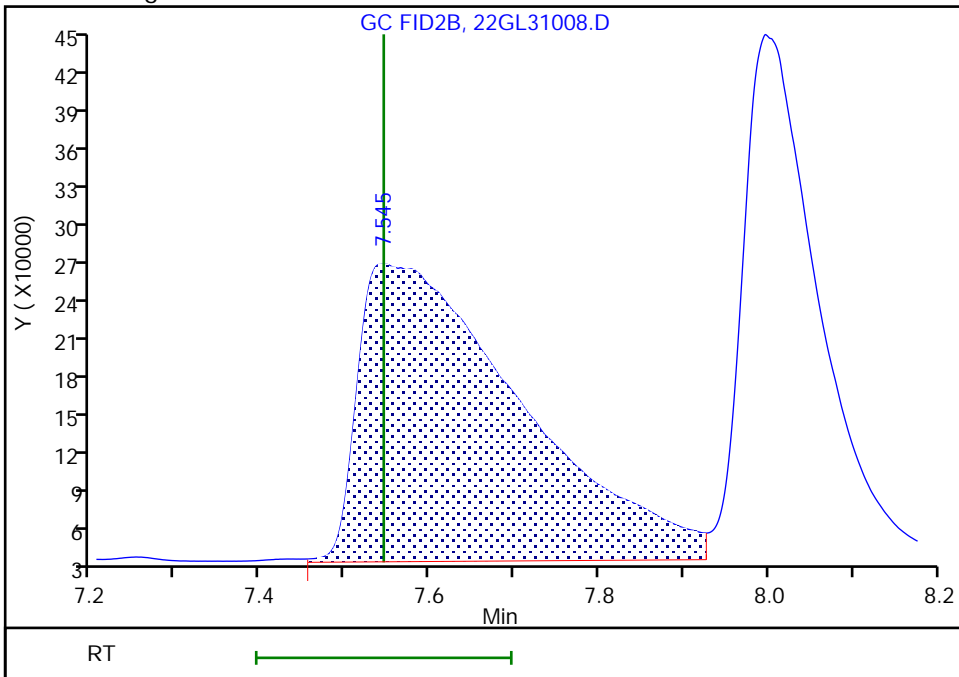
RT: 7.55  
Area: 2804382  
Amount: 46.435503  
Amount Units: ug/ml

Processing Integration Results



RT: 7.55  
Area: 3136454  
Amount: 49.281532  
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 03-Jan-2023 12:52:15  
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah

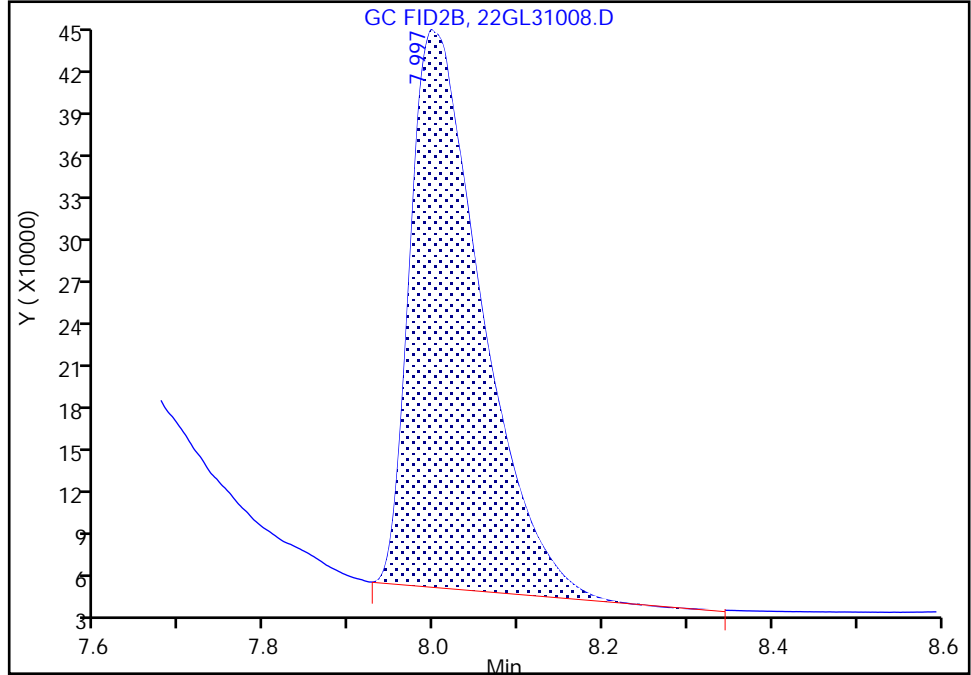
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31008.D  
Injection Date: 31-Dec-2022 15:06:40 Instrument ID: CVGG2  
Lims ID: ic g4  
Client ID:  
Operator ID: ALS Bottle#: 8 Worklist Smp#: 8  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: 8015\_GLY\_VGG Limit Group: 8015C\_DAI  
Column: J&W DB WAX ( 0.45 mm) Detector: GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

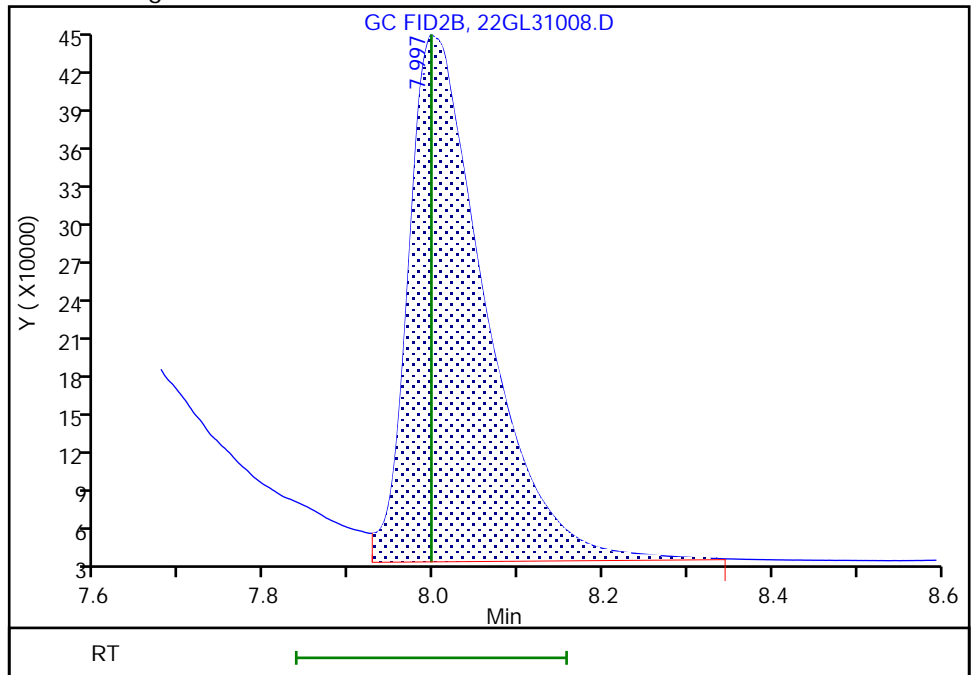
RT: 8.00  
Area: 2328767  
Amount: 45.805637  
Amount Units: ug/ml

Processing Integration Results



RT: 8.00  
Area: 2605143  
Amount: 48.713295  
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 03-Jan-2023 12:52:15  
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah  
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31009.D  
 Lims ID: ic g5  
 Client ID:  
 Sample Type: IC Calib Level: 5  
 Inject. Date: 31-Dec-2022 15:29:20 ALS Bottle#: 9 Worklist Smp#: 9  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 680-0083061-009  
 Operator ID: Instrument ID: CVGG2  
 Sublist: chrom-8015\_GLY\_VGG\*sub2  
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\8015\_GLY\_VGG.m  
 Limit Group: 8015C\_DAI  
 Last Update: 03-Jan-2023 12:53:29 Calib Date: 31-Dec-2022 15:52:08  
 Integrator: Falcon  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31010.D  
 Column 1 : J&W DB WAX ( 0.45 mm) Det: GC FID2B  
 Process Host: CTX1607

First Level Reviewer: SWK1 Date: 03-Jan-2023 12:52:31

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
3.815	3.811	0.004	6296632	80.0	78.8	
2 4-Hydroxy-4-methyl-2-pentanone						
4.624	4.625	-0.001	6728367	80.0	79.2	
3 2-Butoxyethanol						
4.991	4.991	0.000	6820298	80.0	78.6	
* 4 n-Heptyl Alcohol						
5.524	5.524	0.000	7075353	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
6.633	6.637	-0.004	585703	80.0	81.9	
6 Propylene glycol						
7.538	7.545	-0.007	4965325	80.0	81.7	M
7 Ethylene glycol						
7.997	7.997	0.000	4089519	80.0	80.1	M
8 2-(2-Butoxyethoxy)ethanol						
9.400	9.401	-0.001	6467596	80.0	79.4	
9 2,2'-Oxybisethanol						
10.102	10.102	0.000	4151063	80.0	79.4	
10 Triethylene Glycol						
11.064	11.064	0.000	3981926	80.0	80.3	
11 Tetraethylene Glycol						
12.616	12.614	0.002	8201061	160.0	162.7	

QC Flag Legend  
Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG\_Gly\_CAL\_00052

Amount Added: 40.00

Units: uL

SG\_GLY\_ISTD\_00099

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31009.D

Injection Date: 31-Dec-2022 15:29:20

Instrument ID: CVGG2

Operator ID:

Lims ID: ic g5

Worklist Smp#: 9

Client ID:

Injection Vol: 1.0 ul

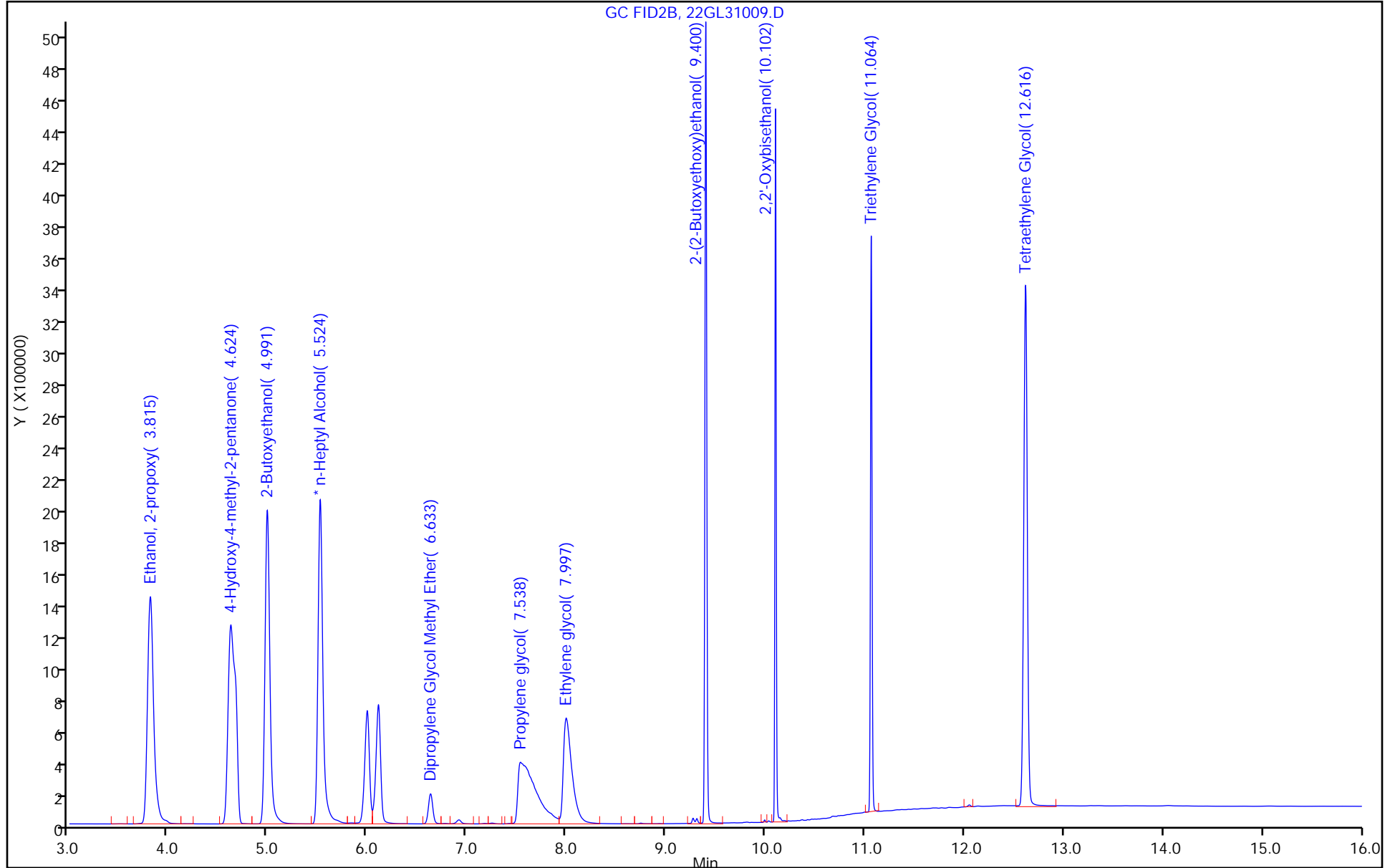
Dil. Factor: 1.0000

ALS Bottle#: 9

Method: 8015\_GLY\_VGG

Limit Group: 8015C\_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

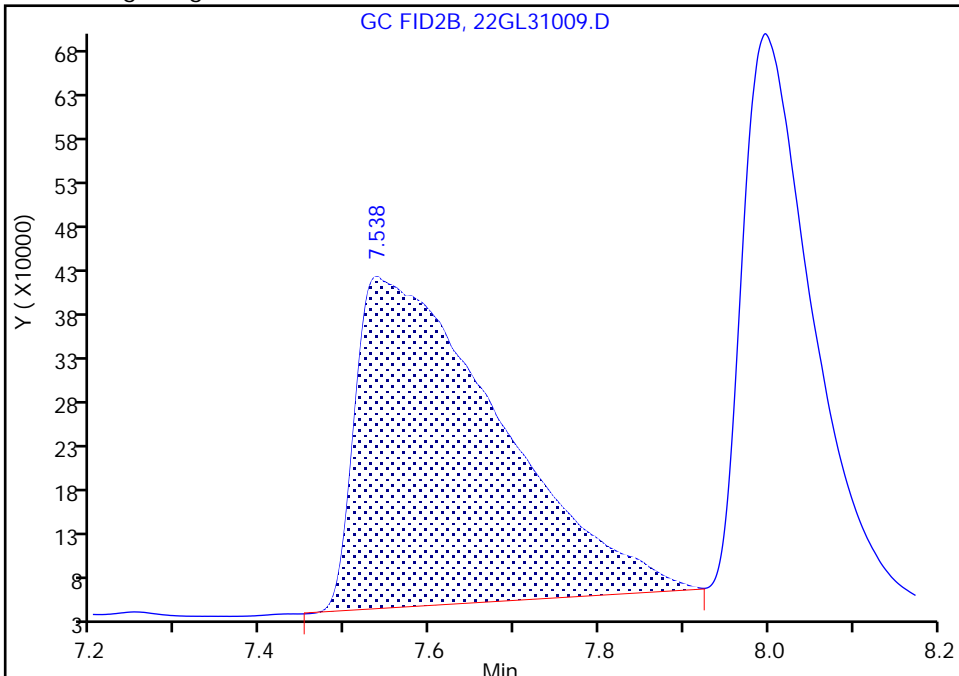
Data File:	\\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31009.D		
Injection Date:	31-Dec-2022 15:29:20	Instrument ID:	CVGG2
Lims ID:	ic g5		
Client ID:			
Operator ID:		ALS Bottle#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI
Column:	J&W DB WAX (0.45 mm)	Detector:	GC FID2B
		Worklist Smp#:	9

6 Propylene glycol, CAS: 57-55-6

Signal: 1

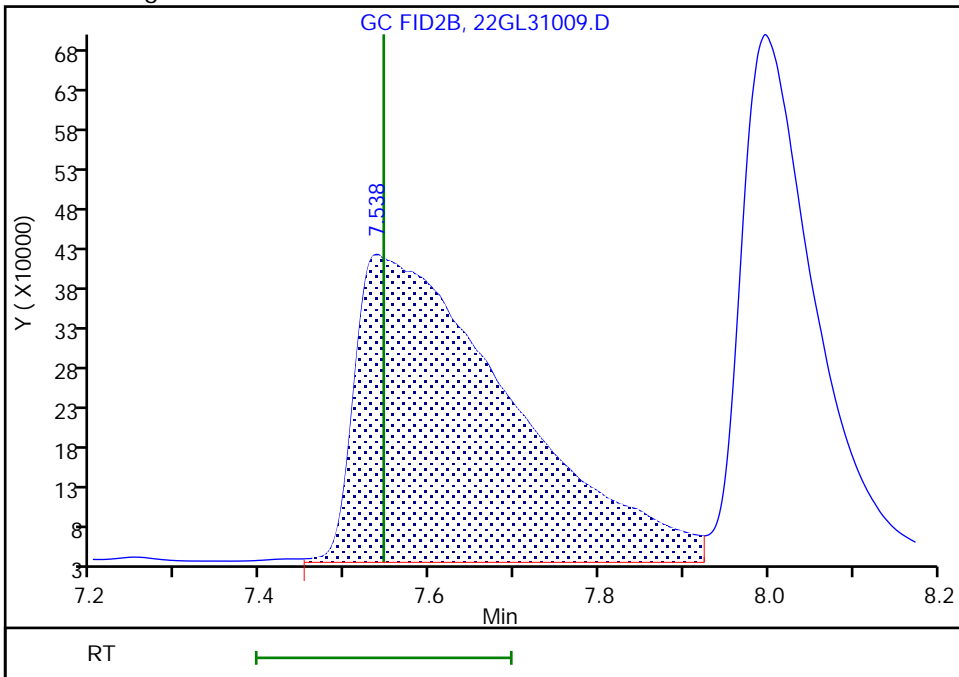
RT: 7.54  
 Area: 4471492  
 Amount: 76.178825  
 Amount Units: ug/ml

Processing Integration Results



RT: 7.54  
 Area: 4965325  
 Amount: 81.742822  
 Amount Units: ug/ml

Manual Integration Results



Eurofins Savannah

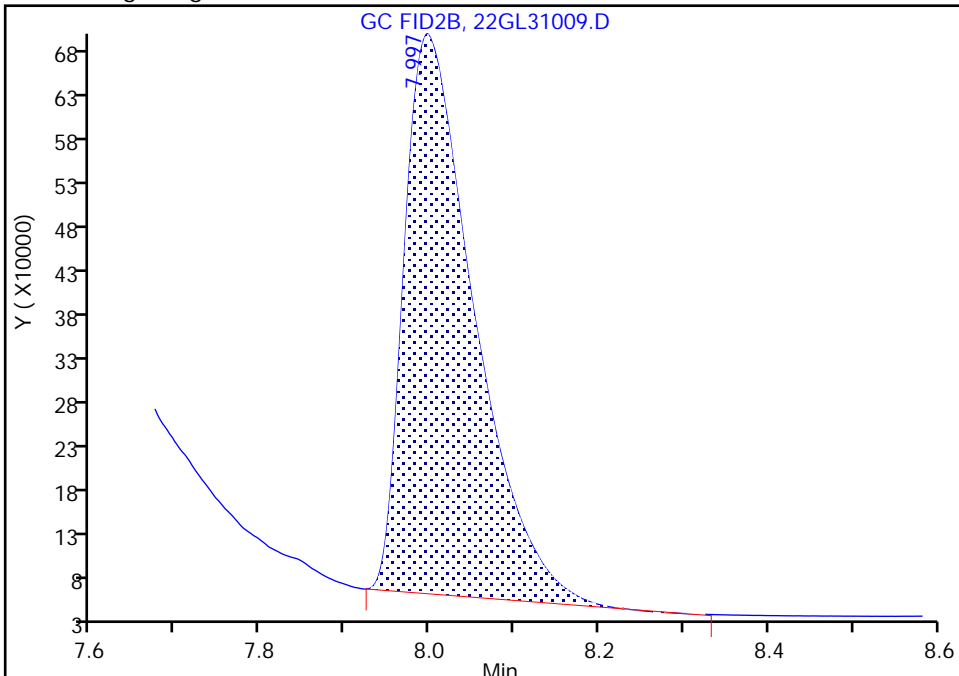
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31009.D  
Injection Date: 31-Dec-2022 15:29:20 Instrument ID: CVGG2  
Lims ID: ic g5  
Client ID:  
Operator ID: ALS Bottle#: 9 Worklist Smp#: 9  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: 8015\_GLY\_VGG Limit Group: 8015C\_DAI  
Column: J&W DB WAX ( 0.45 mm) Detector: GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

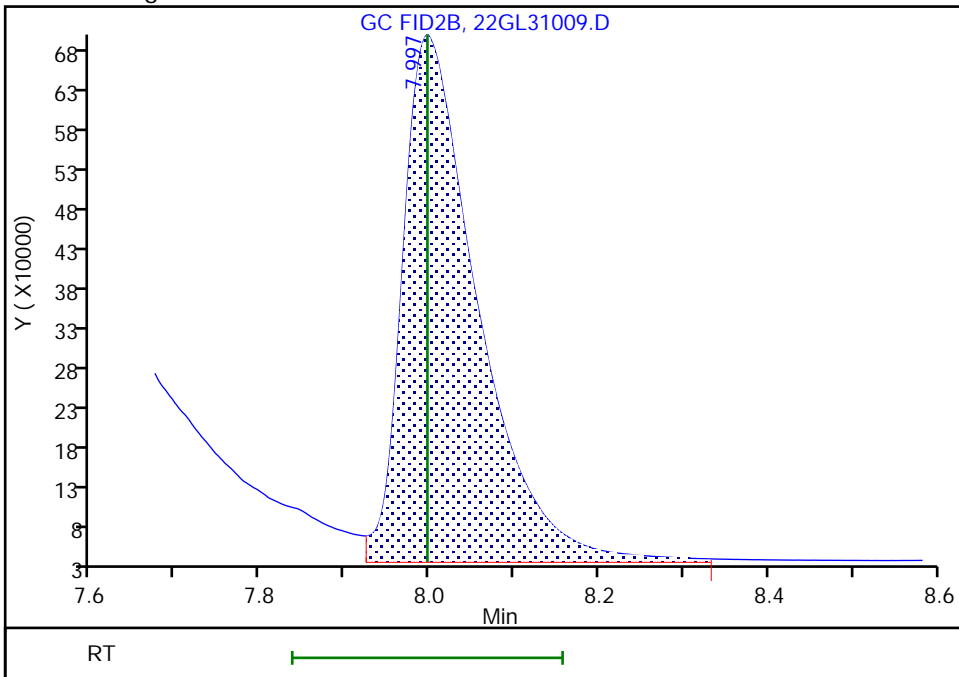
RT: 8.00  
Area: 3689642  
Amount: 74.685204  
Amount Units: ug/ml

Processing Integration Results



RT: 8.00  
Area: 4089519  
Amount: 80.120719  
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 03-Jan-2023 12:52:29  
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing



Eurofins Savannah  
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31010.D  
 Lims ID: ic g6  
 Client ID:  
 Sample Type: IC Calib Level: 6  
 Inject. Date: 31-Dec-2022 15:52:08 ALS Bottle#: 10 Worklist Smp#: 10  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 680-0083061-010  
 Operator ID: Instrument ID: CVGG2  
 Sublist: chrom-8015\_GLY\_VGG\*sub2  
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\8015\_GLY\_VGG.m  
 Limit Group: 8015C\_DAI  
 Last Update: 03-Jan-2023 12:53:30 Calib Date: 31-Dec-2022 15:52:08  
 Integrator: Falcon  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31010.D  
 Column 1 : J&W DB WAX ( 0.45 mm) Det: GC FID2B  
 Process Host: CTX1607

First Level Reviewer: SWK1

Date: 01-Jan-2023 11:56:34

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy	3.815	3.811	0.004	7756623	100.0	99.6
2 4-Hydroxy-4-methyl-2-pentanone	4.626	4.625	0.001	8299722	100.0	100.2
3 2-Butoxyethanol	4.991	4.991	0.000	8385924	100.0	99.2
* 4 n-Heptyl Alcohol	5.522	5.524	-0.002	6894067	50.0	50.0
5 Dipropylene Glycol Methyl Ether	6.630	6.637	-0.007	724394	100.0	104.0
6 Propylene glycol	7.533	7.545	-0.012	6142798	100.0	103.8 M
7 Ethylene glycol	7.997	7.997	0.000	5031863	100.0	101.2 M
8 2-(2-Butoxyethoxy)ethanol	9.401	9.401	0.000	7982407	100.0	100.6
9 2,2'-Oxybisethanol	10.103	10.102	0.001	5103471	100.0	100.2
10 Triethylene Glycol	11.065	11.064	0.001	4879102	100.0	100.9
11 Tetraethylene Glycol	12.616	12.614	0.002	9983332	200.0	203.2

## QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG\_Gly\_CAL\_00052

Amount Added: 50.00

Units: uL

SG\_GLY\_ISTD\_00099

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31010.D

Injection Date: 31-Dec-2022 15:52:08

Instrument ID: CVGG2

Operator ID:

Lims ID: ic g6

Worklist Smp#: 10

Client ID:

Injection Vol: 1.0 ul

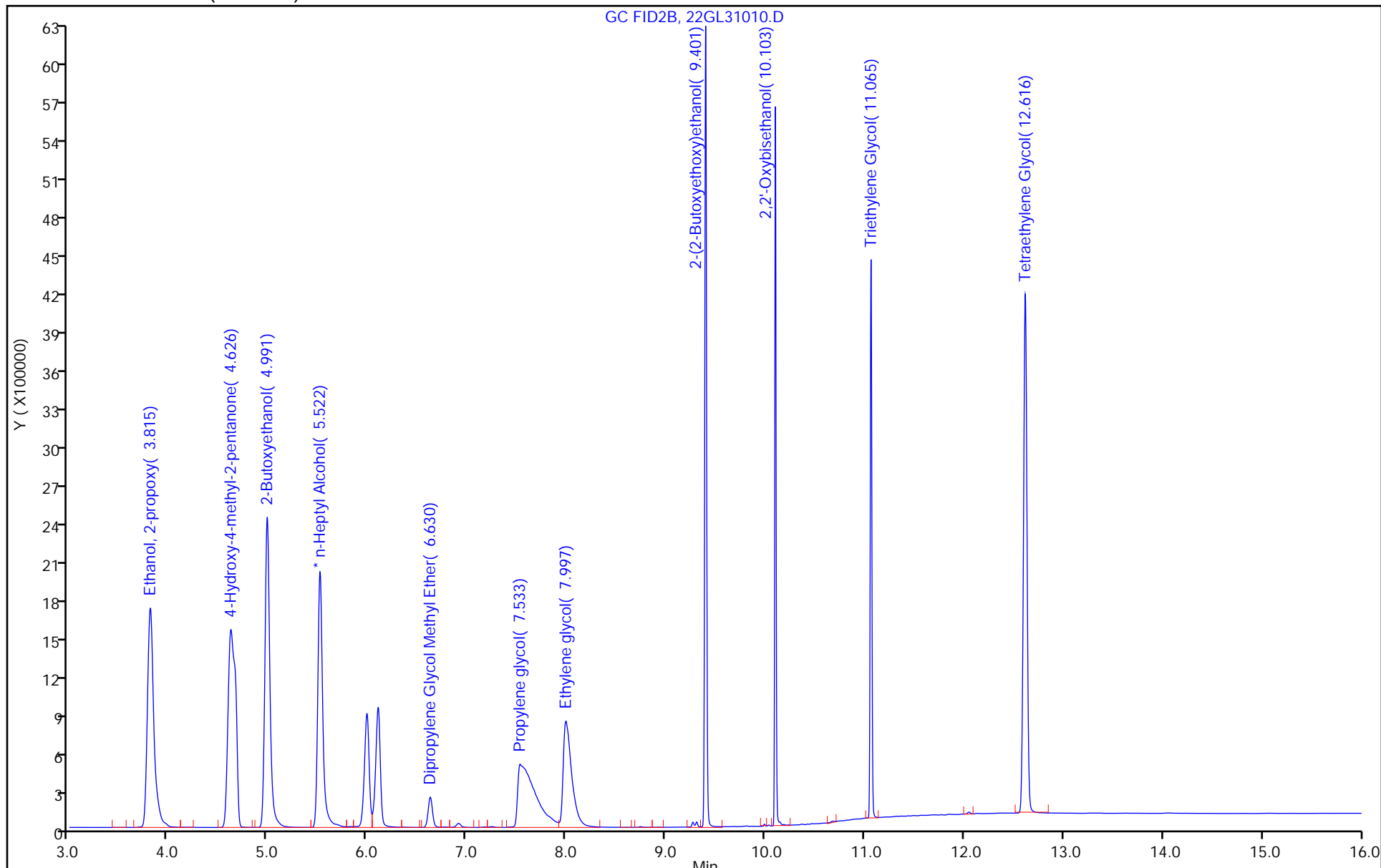
Dil. Factor: 1.0000

ALS Bottle#: 10

Method: 8015\_GLY\_VGG

Limit Group: 8015C\_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

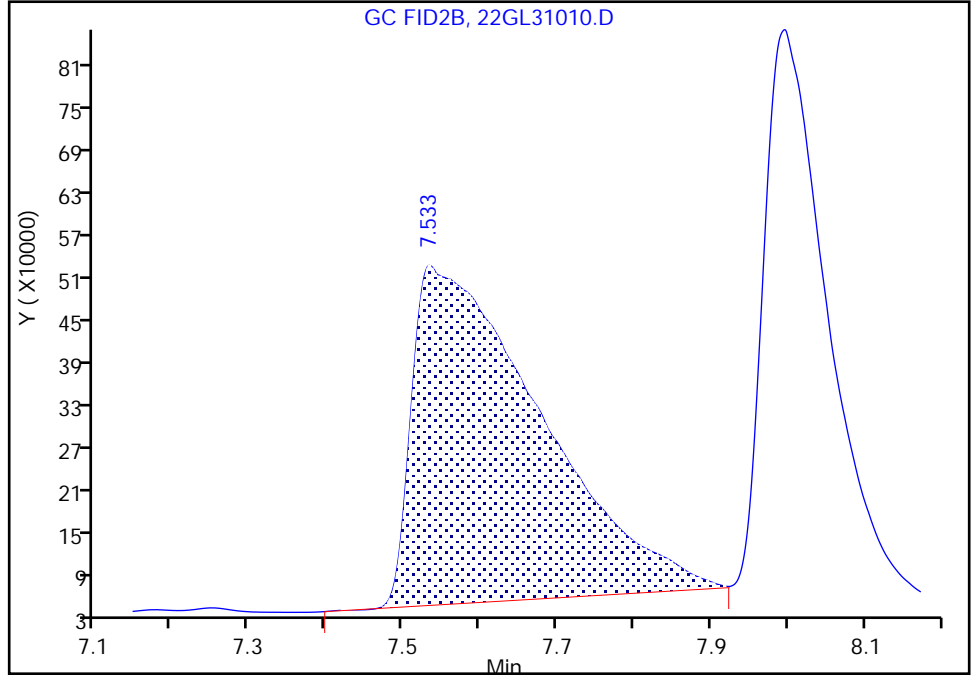
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31010.D  
Injection Date: 31-Dec-2022 15:52:08 Instrument ID: CVGG2  
Lims ID: ic g6  
Client ID:  
Operator ID: ALS Bottle#: 10 Worklist Smp#: 10  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: 8015\_GLY\_VGG Limit Group: 8015C\_DAI  
Column: J&W DB WAX ( 0.45 mm) Detector: GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

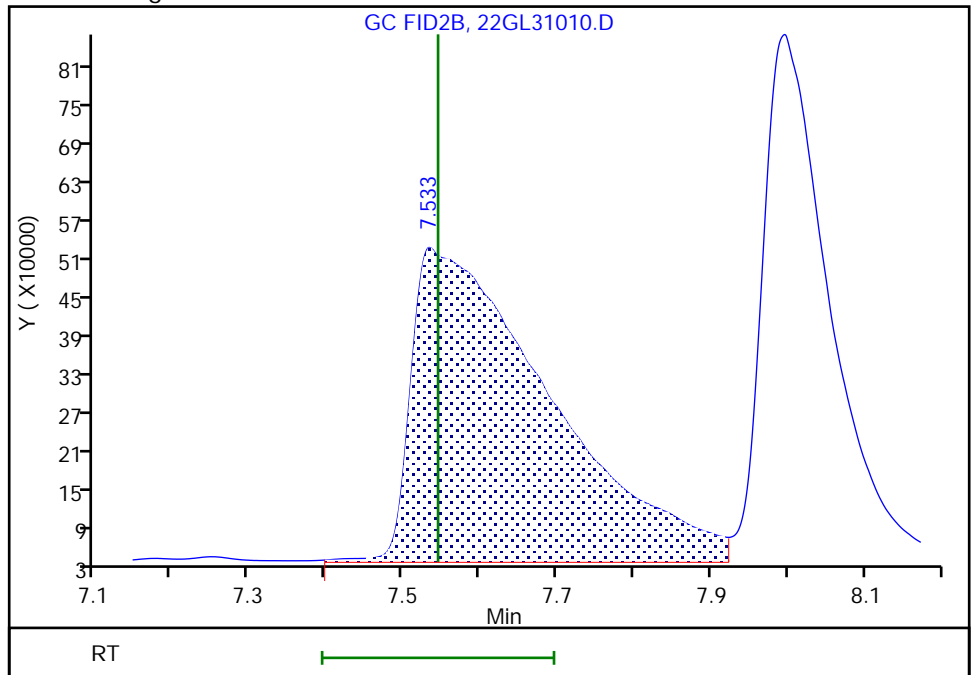
RT: 7.53  
Area: 5548159  
Amount: 95.336050  
Amount Units: ug/ml

Processing Integration Results



RT: 7.53  
Area: 6142798  
Amount: 103.7865  
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 03-Jan-2023 12:52:41  
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah

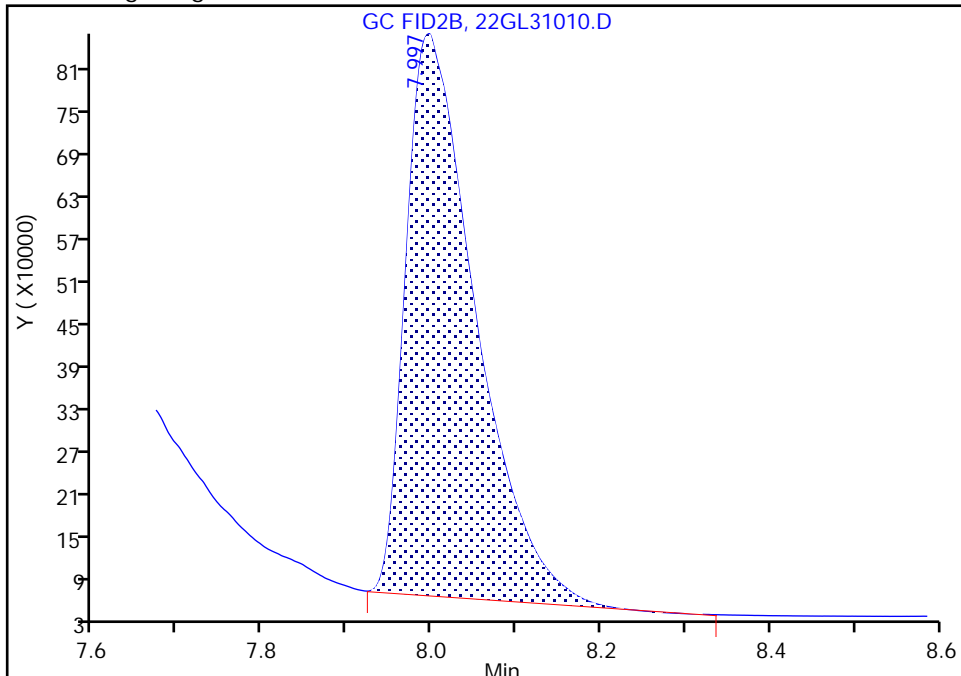
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31010.D  
Injection Date: 31-Dec-2022 15:52:08 Instrument ID: CVGG2  
Lims ID: ic g6  
Client ID:  
Operator ID: ALS Bottle#: 10 Worklist Smp#: 10  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: 8015\_GLY\_VGG Limit Group: 8015C\_DAI  
Column: J&W DB WAX ( 0.45 mm) Detector: GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

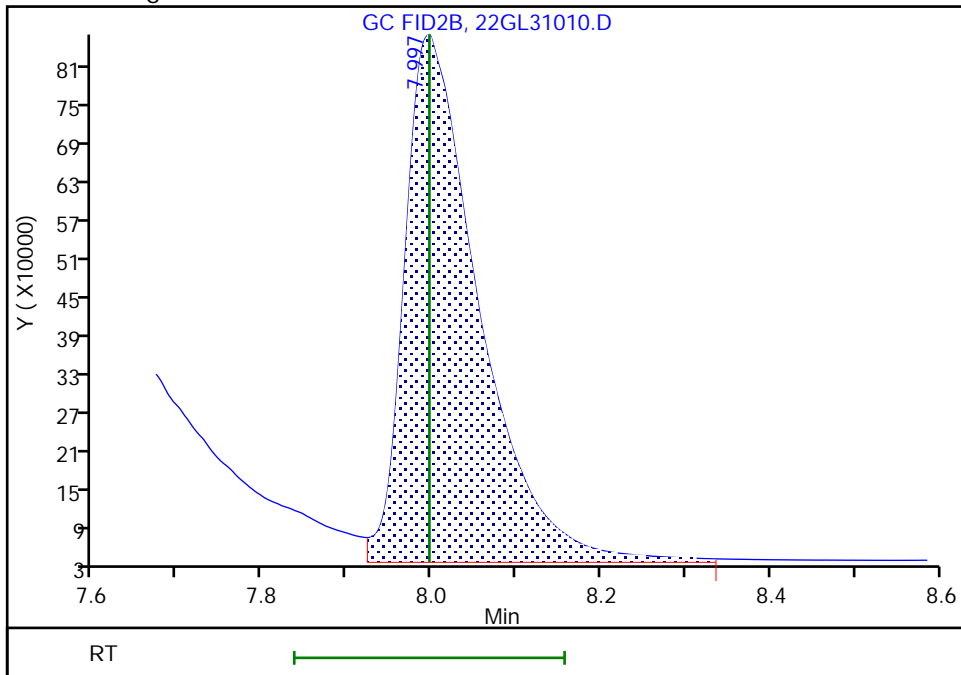
RT: 8.00  
Area: 4560475  
Amount: 93.168817  
Amount Units: ug/ml

Processing Integration Results



RT: 8.00  
Area: 5031863  
Amount: 101.1752  
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 03-Jan-2023 12:52:41  
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Calibration

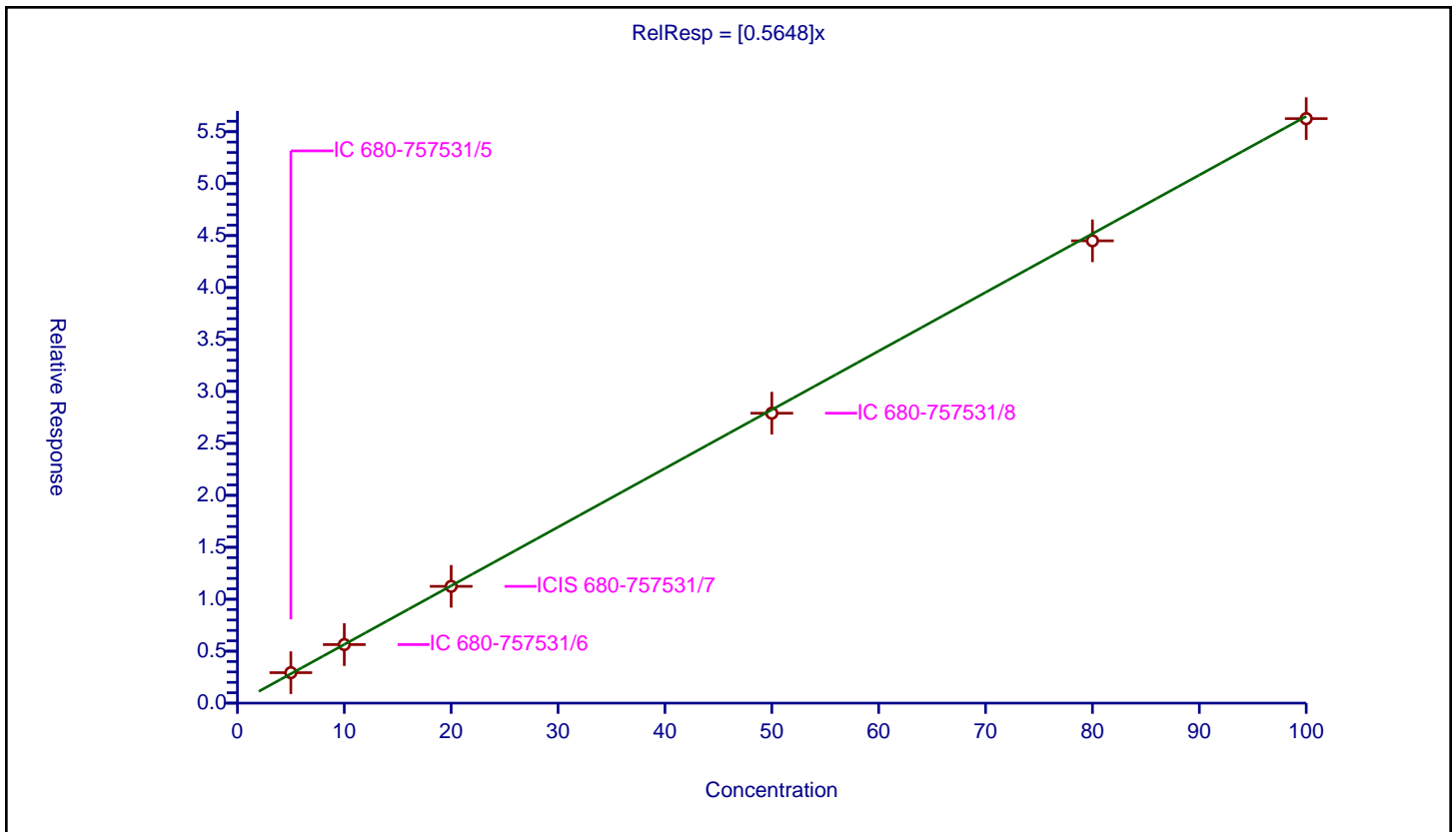
/ Ethanol, 2-propoxy

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base: AREA  
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.5648

Error Coefficients	
Standard Error:	4910000
Relative Standard Error:	1.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757531/5	5.0	2.931063	50.0	6583345.0	0.586213	Y
2	IC 680-757531/6	10.0	5.634945	50.0	6981355.0	0.563494	Y
3	ICIS 680-757531/7	20.0	11.240272	50.0	7355756.0	0.562014	Y
4	IC 680-757531/8	50.0	27.902761	50.0	7413184.0	0.558055	Y
5	IC 680-757531/9	80.0	44.496946	50.0	7075353.0	0.556212	Y
6	IC 680-757531/10	100.0	56.255785	50.0	6894067.0	0.562558	Y



**Calibration**

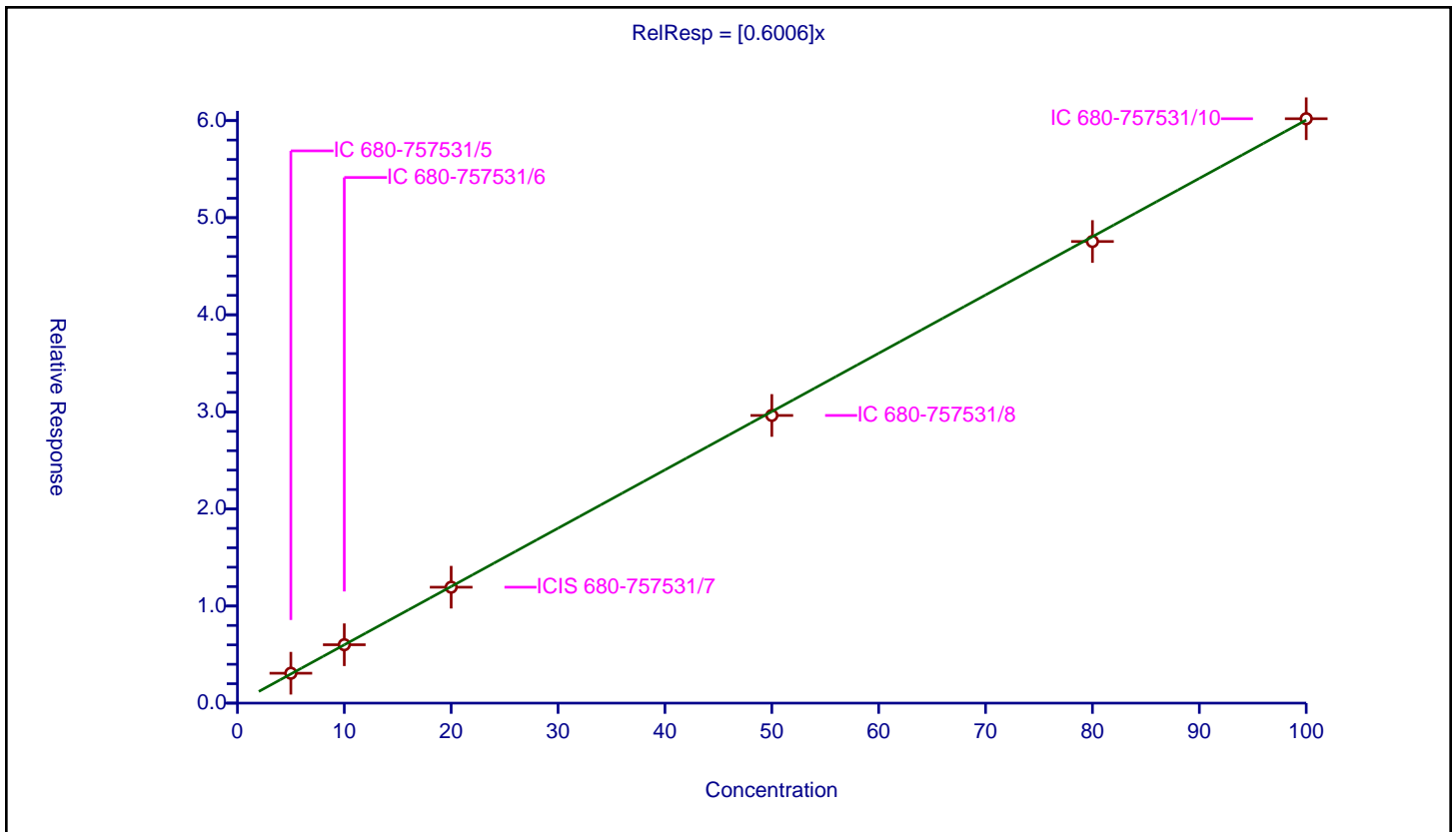
**/ 4-Hydroxy-4-methyl-2-pentanone**

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base: AREA  
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.6006

Error Coefficients	
Standard Error:	5240000
Relative Standard Error:	1.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757531/5	5.0	3.080508	50.0	6583345.0	0.616102	Y
2	IC 680-757531/6	10.0	6.015401	50.0	6981355.0	0.60154	Y
3	ICIS 680-757531/7	20.0	11.938603	50.0	7355756.0	0.59693	Y
4	IC 680-757531/8	50.0	29.63075	50.0	7413184.0	0.592615	Y
5	IC 680-757531/9	80.0	47.547924	50.0	7075353.0	0.594349	Y
6	IC 680-757531/10	100.0	60.194672	50.0	6894067.0	0.601947	Y



**Calibration**

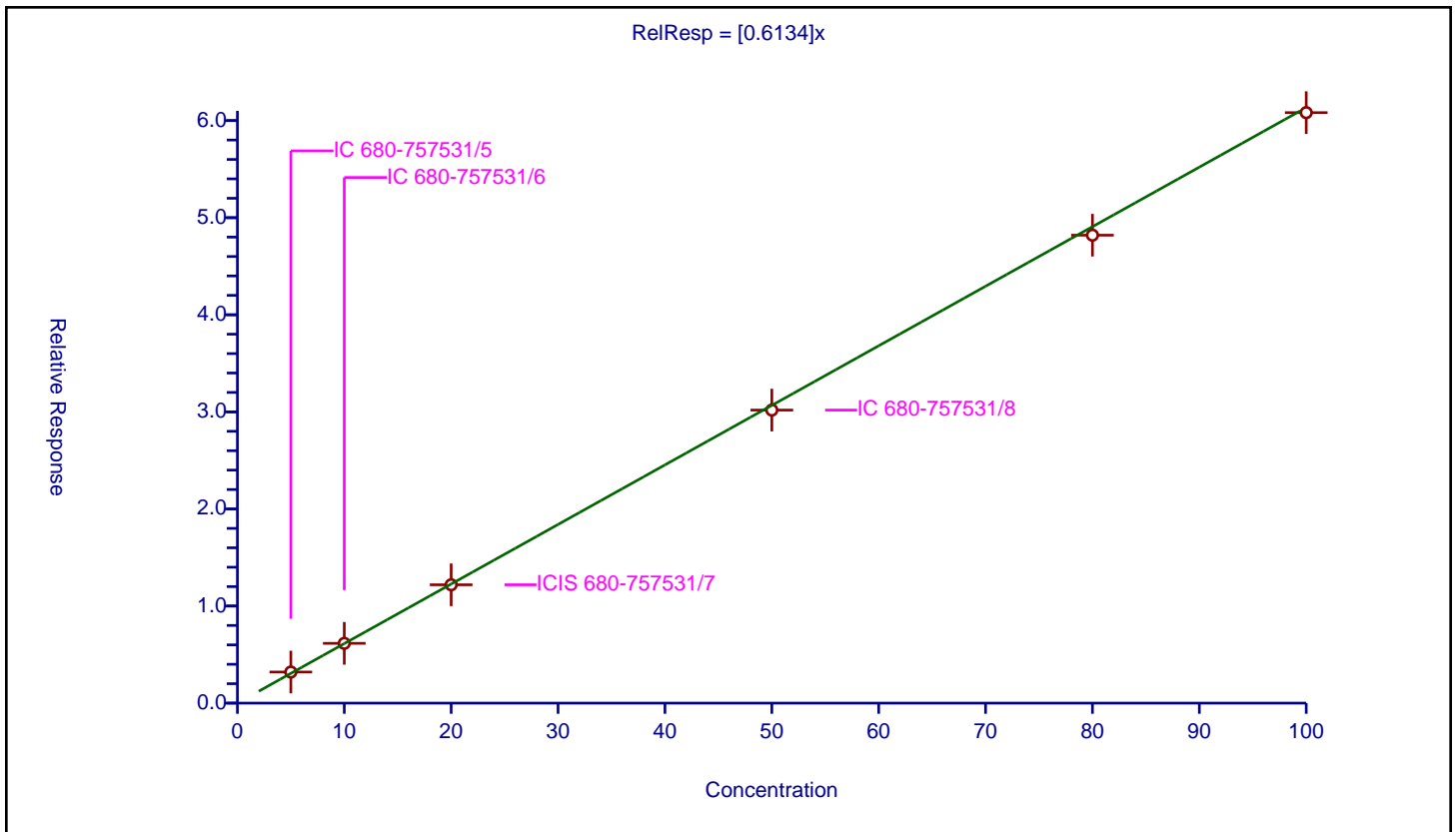
**/ 2-Butoxyethanol**

**Curve Type:** Average  
**Weighting:** Conc\_Sq  
**Origin:** Force  
**Dependency:** Response  
**Calib Mode:** ISTD  
**Response Base:** AREA  
**RF Rounding:** 0

Curve Coefficients	
Intercept:	0
Slope:	0.6134

Error Coefficients	
Standard Error:	5310000
Relative Standard Error:	2.3
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757531/5	5.0	3.203645	50.0	6583345.0	0.640729	Y
2	IC 680-757531/6	10.0	6.15806	50.0	6981355.0	0.615806	Y
3	ICIS 680-757531/7	20.0	12.190623	50.0	7355756.0	0.609531	Y
4	IC 680-757531/8	50.0	30.18305	50.0	7413184.0	0.603661	Y
5	IC 680-757531/9	80.0	48.197581	50.0	7075353.0	0.60247	Y
6	IC 680-757531/10	100.0	60.819861	50.0	6894067.0	0.608199	Y





**Calibration**

**/ Dipropylene Glycol Methyl Ether**

**Curve Type:** Average  
**Weighting:** Conc\_Sq  
**Origin:** Force  
**Dependency:** Response  
**Calib Mode:** ISTD  
**Response Base:** AREA  
**RF Rounding:** 0

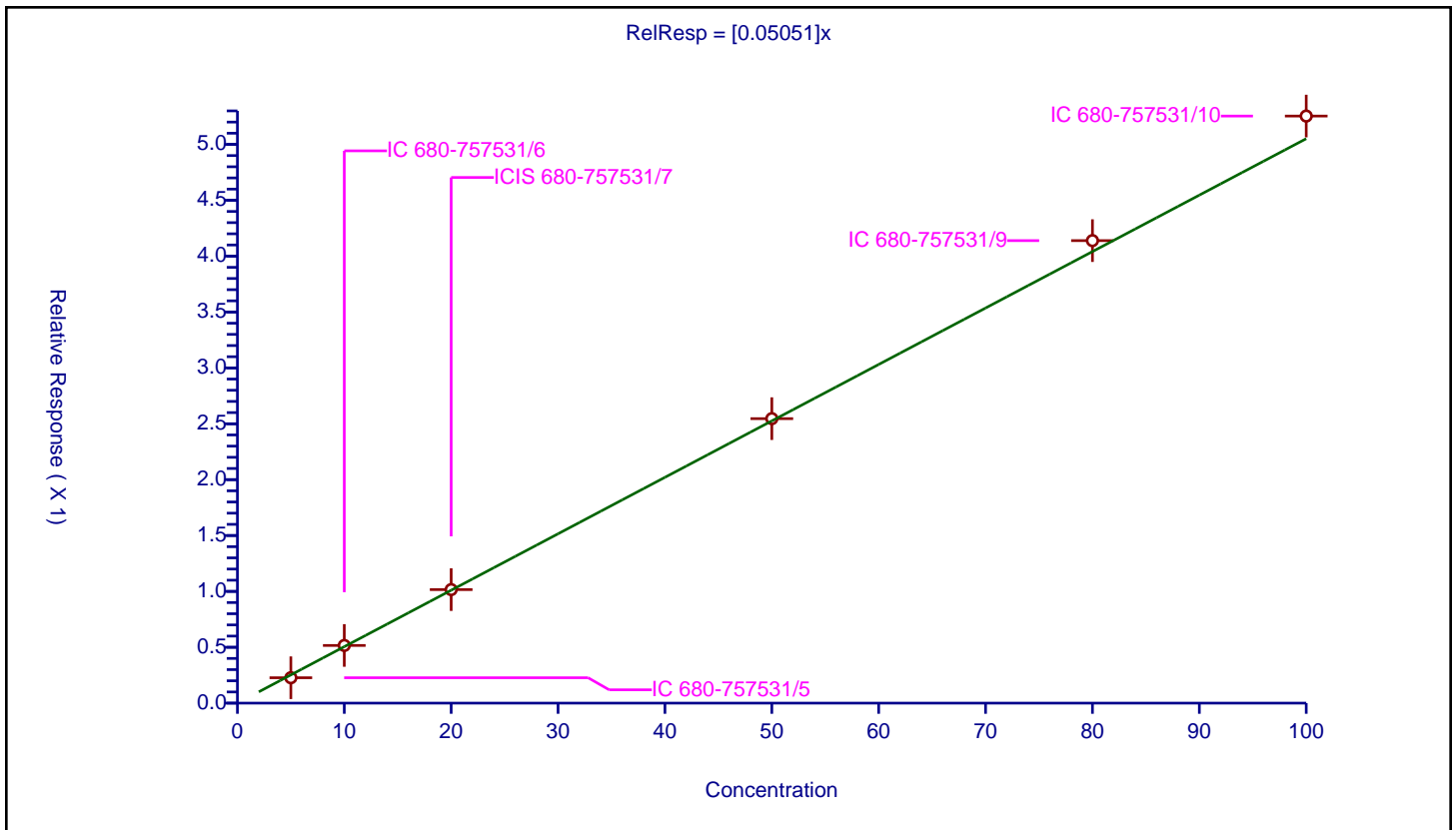
**Curve Coefficients**

**Intercept:** 0  
**Slope:** 0.05051

**Error Coefficients**

**Standard Error:** 456000  
**Relative Standard Error:** 5.1  
**Correlation Coefficient:** 0.999  
**Coefficient of Determination (Adjusted):** 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757531/5	5.0	0.227316	50.0	6583345.0	0.045463	Y
2	IC 680-757531/6	10.0	0.516153	50.0	6981355.0	0.051615	Y
3	ICIS 680-757531/7	20.0	1.016014	50.0	7355756.0	0.050801	Y
4	IC 680-757531/8	50.0	2.545843	50.0	7413184.0	0.050917	Y
5	IC 680-757531/9	80.0	4.139037	50.0	7075353.0	0.051738	Y
6	IC 680-757531/10	100.0	5.253749	50.0	6894067.0	0.052537	Y



**Calibration**

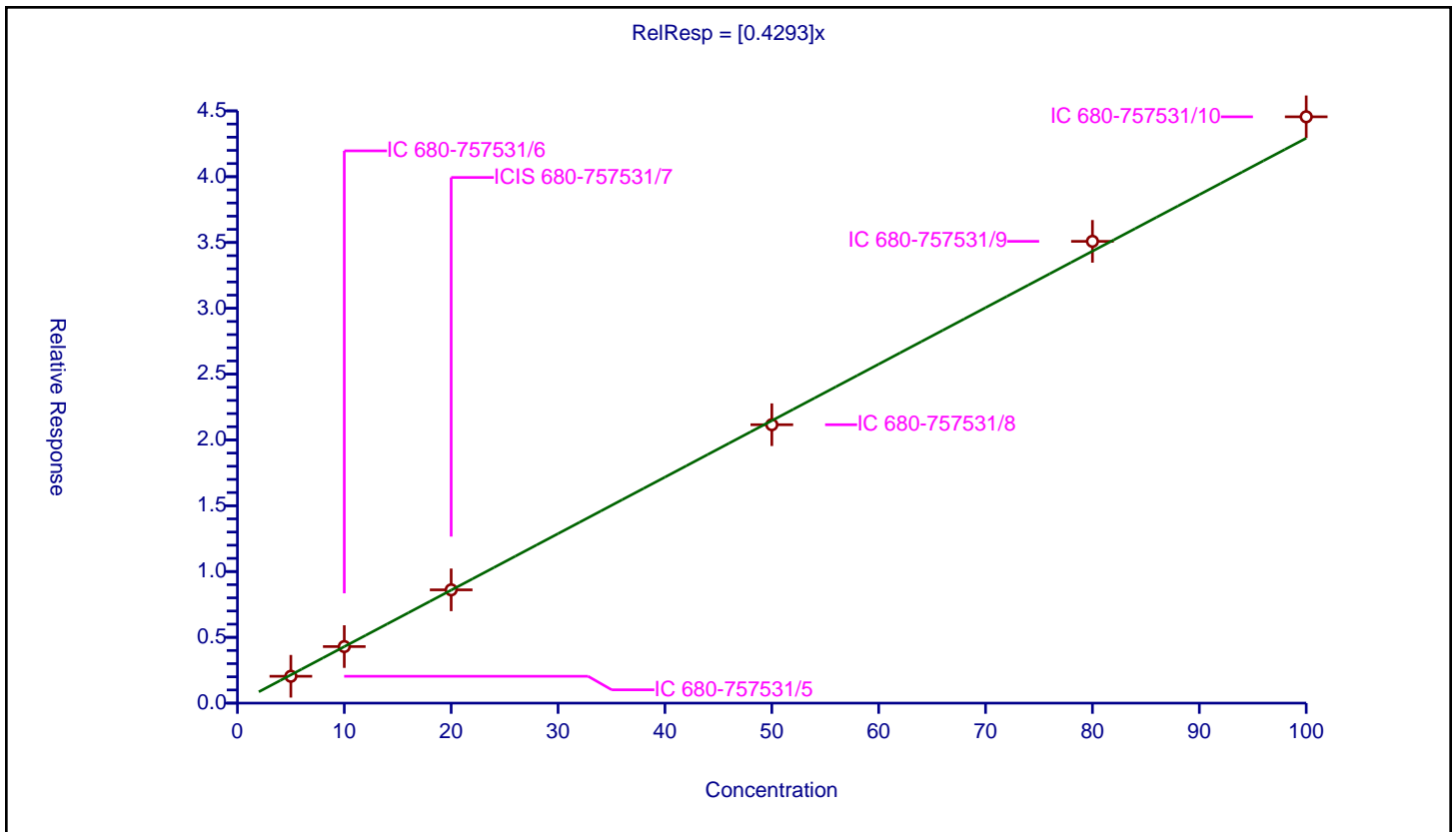
**/ Propylene glycol**

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base: AREA  
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.4293

Error Coefficients	
Standard Error:	3850000
Relative Standard Error:	3.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757531/5	5.0	2.040946	50.0	6583345.0	0.408189	Y
2	IC 680-757531/6	10.0	4.297597	50.0	6981355.0	0.42976	Y
3	ICIS 680-757531/7	20.0	8.607851	50.0	7355756.0	0.430393	Y
4	IC 680-757531/8	50.0	21.154567	50.0	7413184.0	0.423091	Y
5	IC 680-757531/9	80.0	35.088885	50.0	7075353.0	0.438611	Y
6	IC 680-757531/10	100.0	44.551337	50.0	6894067.0	0.445513	Y



**Calibration**

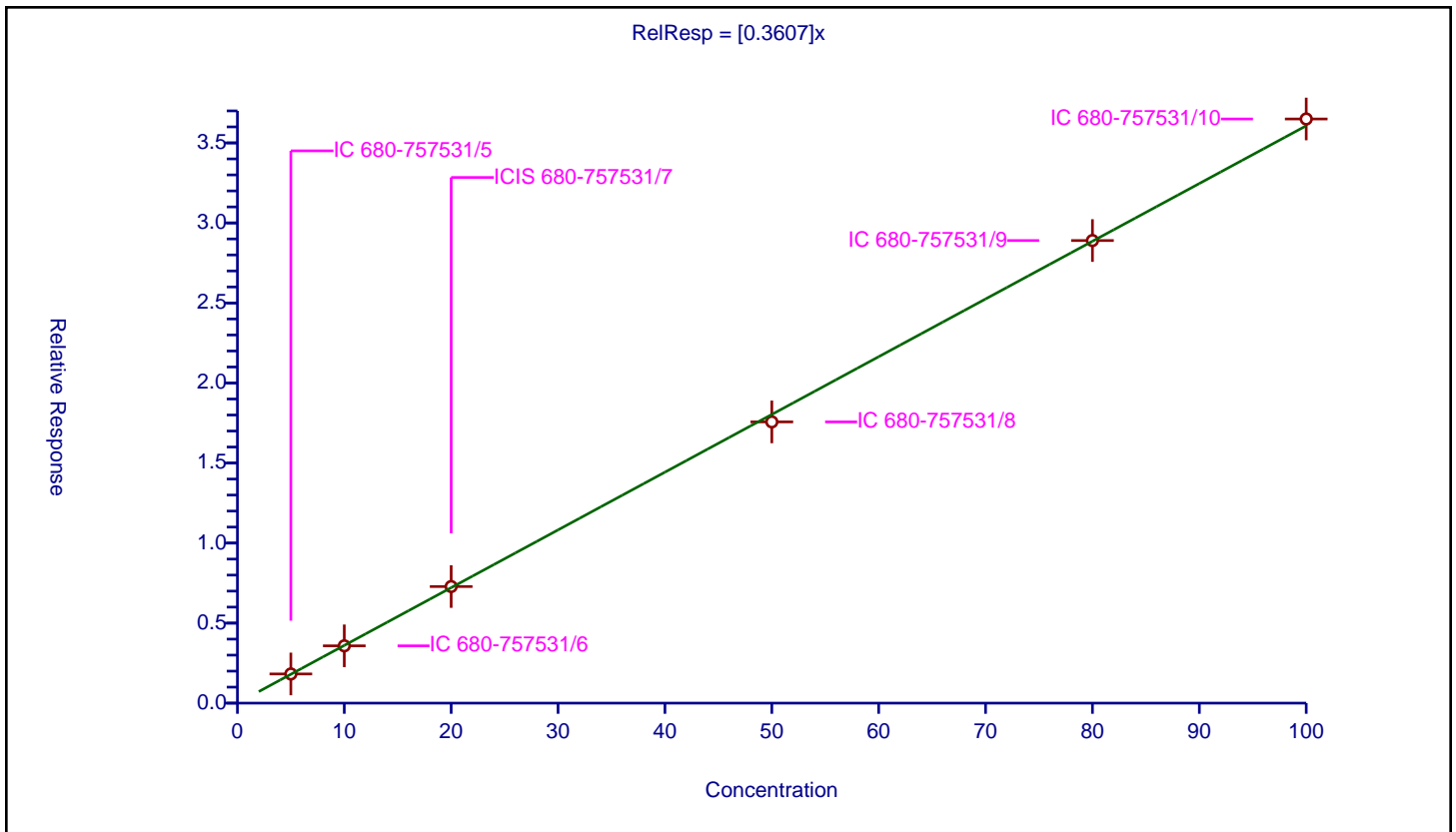
/ Ethylene glycol

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base: AREA  
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.3607

Error Coefficients	
Standard Error:	3170000
Relative Standard Error:	1.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757531/5	5.0	1.822371	50.0	6583345.0	0.364474	Y
2	IC 680-757531/6	10.0	3.579162	50.0	6981355.0	0.357916	Y
3	ICIS 680-757531/7	20.0	7.284329	50.0	7355756.0	0.364216	Y
4	IC 680-757531/8	50.0	17.571013	50.0	7413184.0	0.35142	Y
5	IC 680-757531/9	80.0	28.899752	50.0	7075353.0	0.361247	Y
6	IC 680-757531/10	100.0	36.494155	50.0	6894067.0	0.364942	Y



**Calibration**

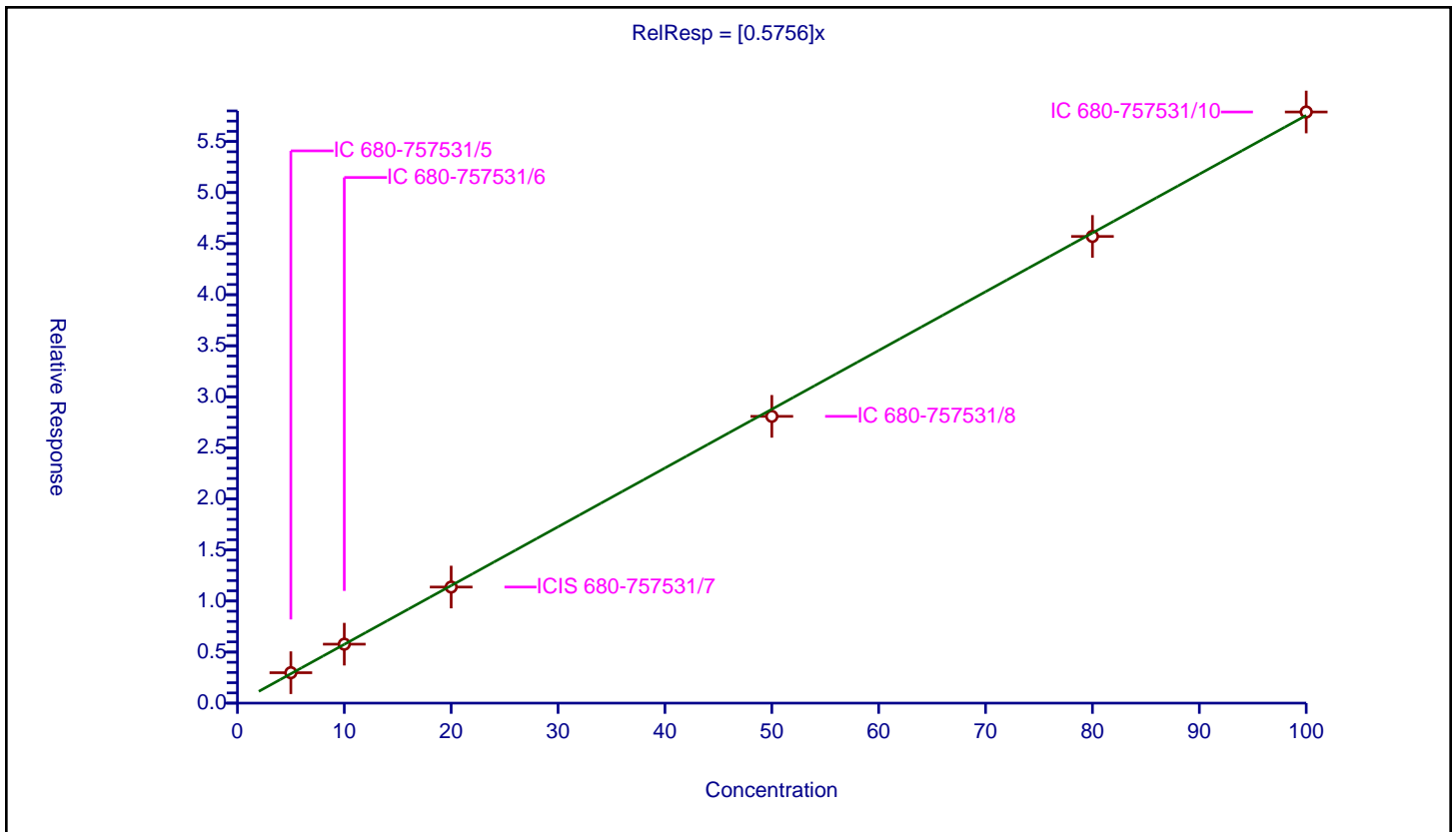
/ 2-(2-Butoxyethoxy)ethanol

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base: AREA  
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.5756

Error Coefficients	
Standard Error:	5030000
Relative Standard Error:	2.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757531/5	5.0	2.980012	50.0	6583345.0	0.596002	Y
2	IC 680-757531/6	10.0	5.772461	50.0	6981355.0	0.577246	Y
3	ICIS 680-757531/7	20.0	11.367982	50.0	7355756.0	0.568399	Y
4	IC 680-757531/8	50.0	28.086346	50.0	7413184.0	0.561727	Y
5	IC 680-757531/9	80.0	45.705112	50.0	7075353.0	0.571314	Y
6	IC 680-757531/10	100.0	57.893309	50.0	6894067.0	0.578933	Y



**Calibration**

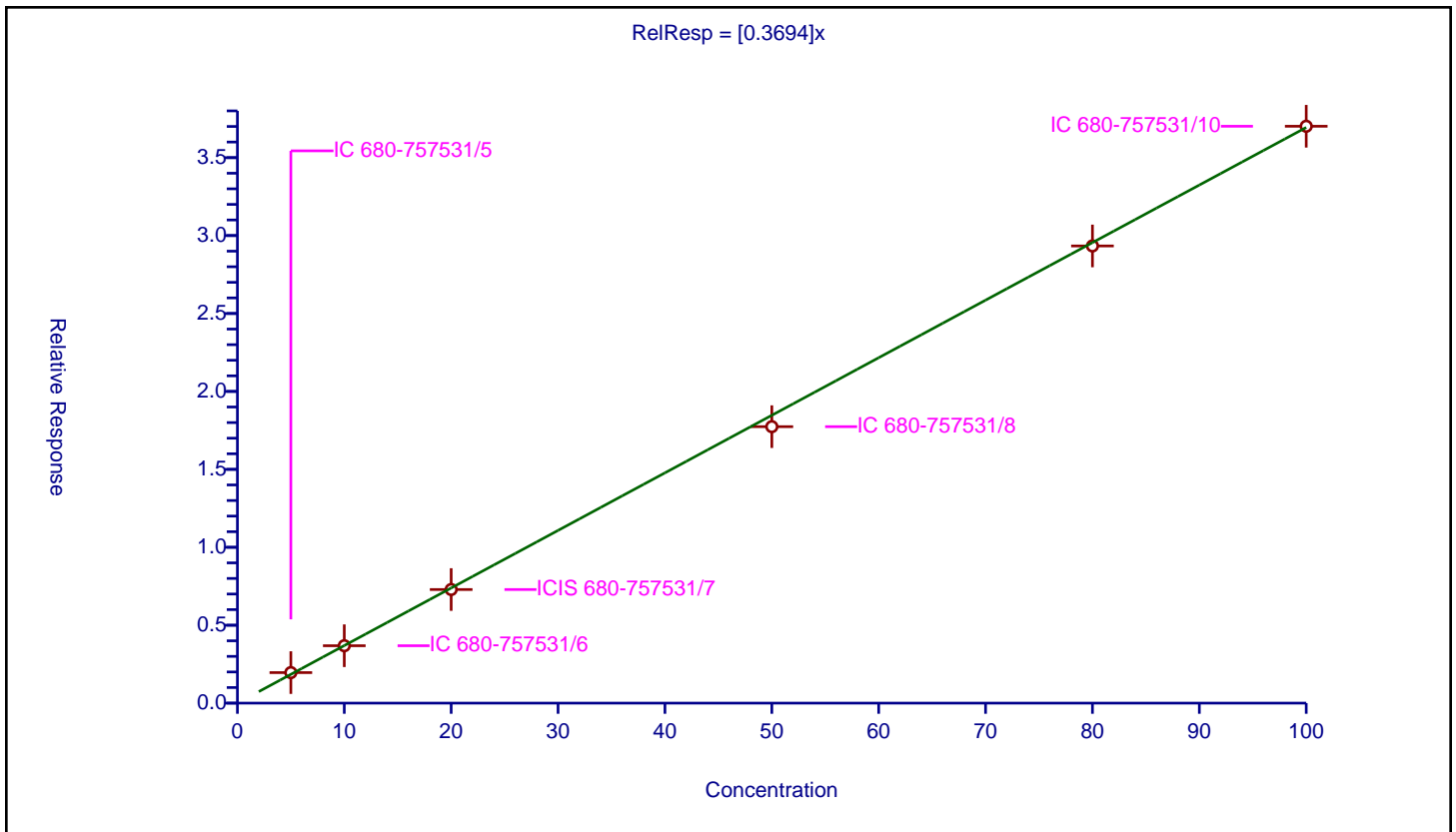
**/ 2,2'-Oxybisethanol**

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base: AREA  
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.3694

Error Coefficients	
Standard Error:	3210000
Relative Standard Error:	3.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757531/5	5.0	1.95851	50.0	6583345.0	0.391702	Y
2	IC 680-757531/6	10.0	3.684048	50.0	6981355.0	0.368405	Y
3	ICIS 680-757531/7	20.0	7.289475	50.0	7355756.0	0.364474	Y
4	IC 680-757531/8	50.0	17.738761	50.0	7413184.0	0.354775	Y
5	IC 680-757531/9	80.0	29.334671	50.0	7075353.0	0.366683	Y
6	IC 680-757531/10	100.0	37.0135	50.0	6894067.0	0.370135	Y



**Calibration**

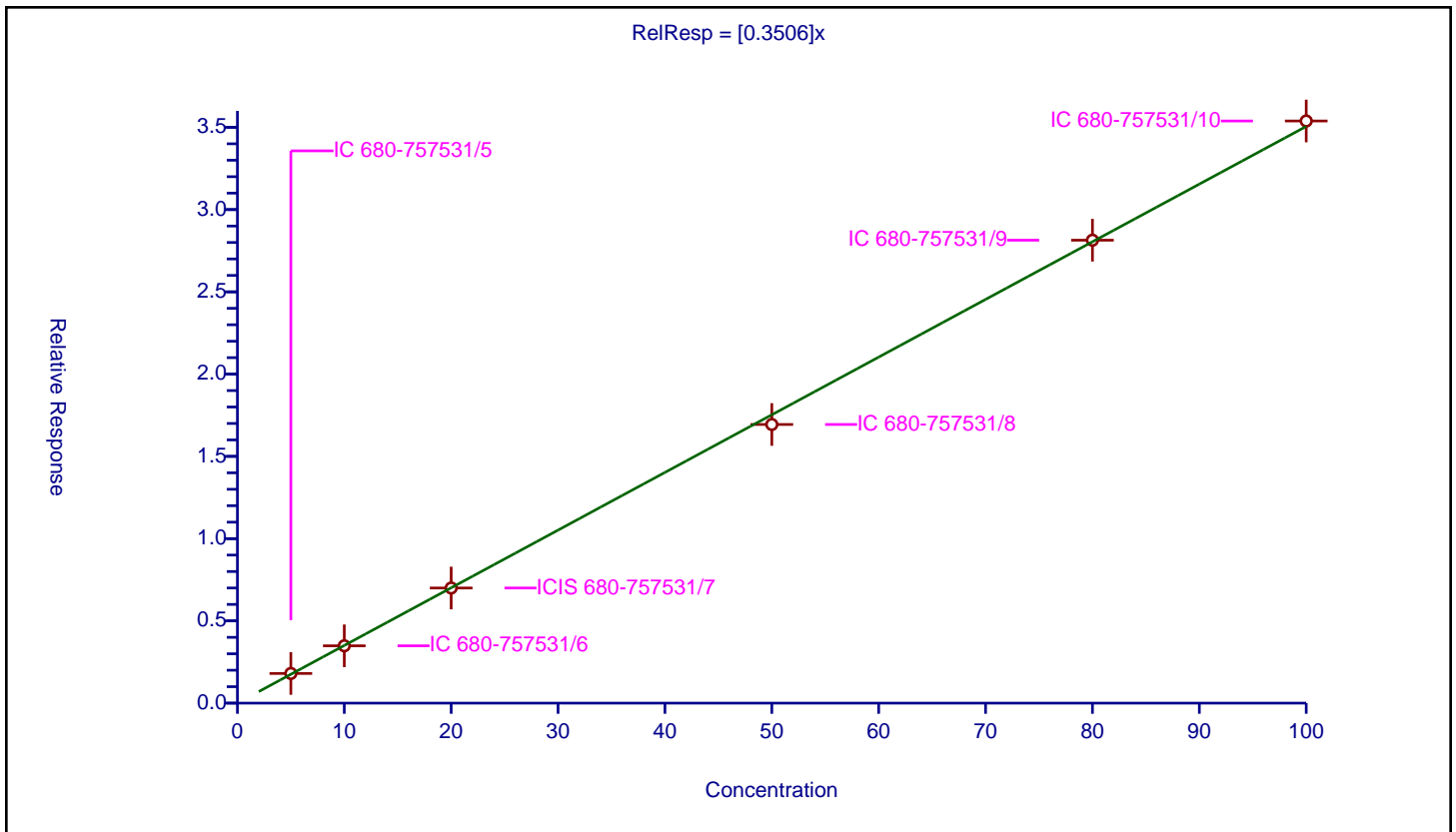
/ Triethylene Glycol

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base: AREA  
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.3506

Error Coefficients	
Standard Error:	3080000
Relative Standard Error:	2.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757531/5	5.0	1.80305	50.0	6583345.0	0.36061	Y
2	IC 680-757531/6	10.0	3.484589	50.0	6981355.0	0.348459	Y
3	ICIS 680-757531/7	20.0	6.997969	50.0	7355756.0	0.349898	Y
4	IC 680-757531/8	50.0	16.93758	50.0	7413184.0	0.338752	Y
5	IC 680-757531/9	80.0	28.139416	50.0	7075353.0	0.351743	Y
6	IC 680-757531/10	100.0	35.386239	50.0	6894067.0	0.353862	Y



**Calibration**

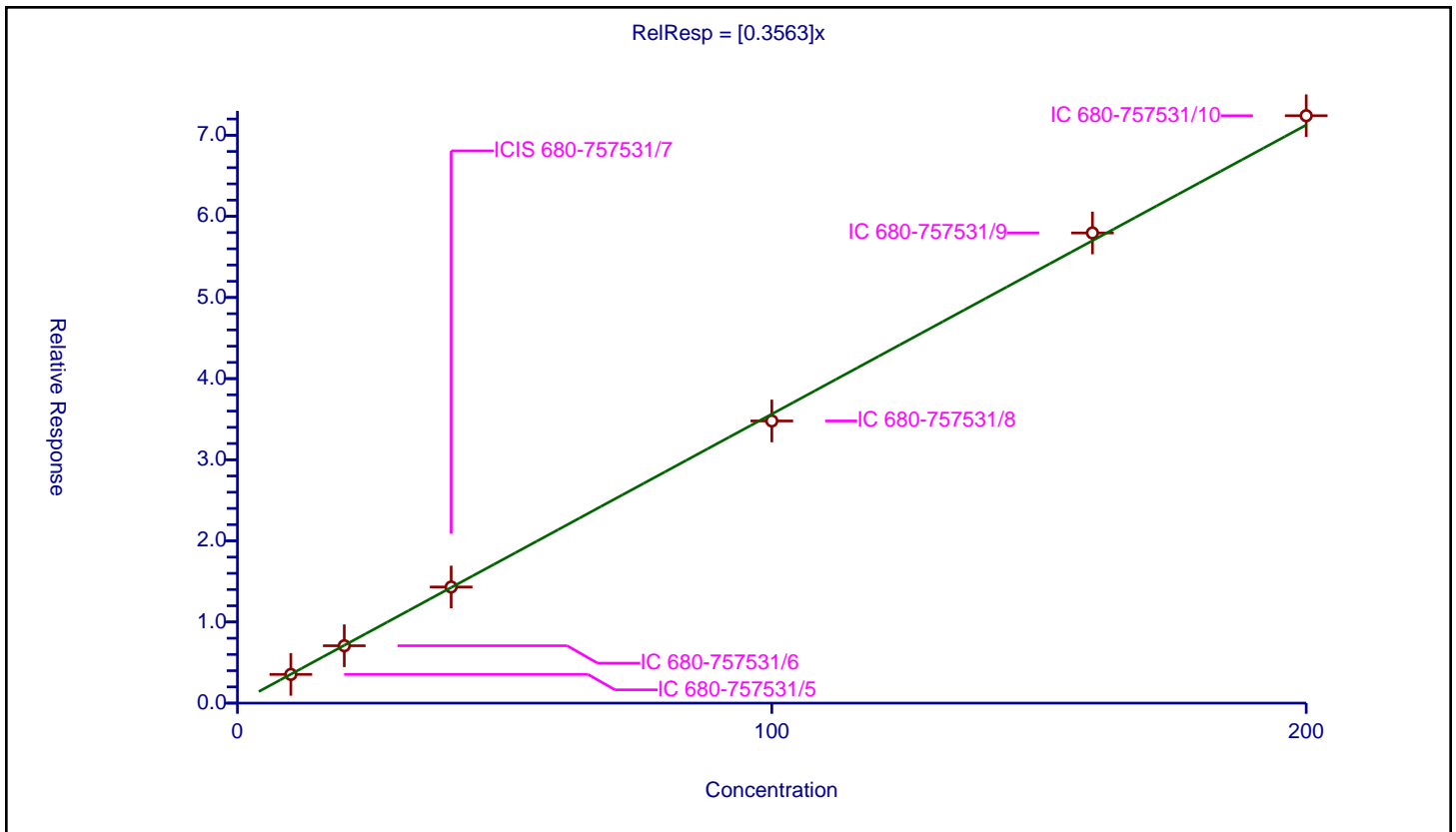
/ Tetraethylene Glycol

**Curve Type:** Average  
**Weighting:** Conc\_Sq  
**Origin:** Force  
**Dependency:** Response  
**Calib Mode:** ISTD  
**Response Base:** AREA  
**RF Rounding:** 0

Curve Coefficients	
Intercept:	0
Slope:	0.3563

Error Coefficients	
Standard Error:	6310000
Relative Standard Error:	1.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757531/5	10.0	3.540814	50.0	6583345.0	0.354081	Y
2	IC 680-757531/6	20.0	7.074164	50.0	6981355.0	0.353708	Y
3	ICIS 680-757531/7	40.0	14.316265	50.0	7355756.0	0.357907	Y
4	IC 680-757531/8	100.0	34.7816	50.0	7413184.0	0.347816	Y
5	IC 680-757531/9	160.0	57.955137	50.0	7075353.0	0.36222	Y
6	IC 680-757531/10	200.0	72.405244	50.0	6894067.0	0.362026	Y



FORM VII  
GC SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Savannah Job No.: 580-121536-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 680-757531/11 Calibration Date: 12/31/2022 16:14  
 Instrument ID: CVGG2 Calib Start Date: 12/31/2022 13:58  
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 12/31/2022 15:52  
 Lab File ID: 22GL31011.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol, 2-propoxy	Ave	0.5648	0.6324		22.4	20.0	12.0	20.0
4-Hydroxy-4-methyl-2-pentano ne	Ave	0.6006	0.6714		22.4	20.0	11.8	20.0
2-Butoxyethanol	Ave	0.6134	0.7144		23.3	20.0	16.5	20.0
Dipropylene Glycol Methyl Ether	Ave	0.0505	0.0577		22.9	20.0	14.3	20.0
Propylene glycol	Ave	0.4293	0.4408		20.5	20.0	2.7	20.0
Ethylene glycol	Ave	0.3607	0.4104		22.8	20.0	13.8	20.0
2-(2-Butoxyethoxy)ethanol	Ave	0.5756	0.6355		22.1	20.0	10.4	20.0
2,2'-Oxybisethanol	Ave	0.3694	0.3922		21.2	20.0	6.2	20.0
Triethylene Glycol	Ave	0.3506	0.4012		22.9	20.0	14.5	20.0
Tetraethylene Glycol	Ave	0.3563	0.4134		46.4	40.0	16.0	20.0



FORM VII  
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121536-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 680-757531/11 Calibration Date: 12/31/2022 16:14  
 Instrument ID: CVGG2 Calib Start Date: 12/31/2022 13:58  
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 12/31/2022 15:52  
 Lab File ID: 22GL31011.D

Analyte	RT	RT WINDOW	
		FROM	TO
Ethanol, 2-propoxy	3.82	3.74	3.89
4-Hydroxy-4-methyl-2-pentanone	4.63	4.53	4.72
2-Butoxyethanol	4.99	4.89	5.09
Dipropylene Glycol Methyl Ether	6.64	6.50	6.77
Propylene glycol	7.56	7.39	7.70
Ethylene glycol	8.00	7.84	8.16
2-(2-Butoxyethoxy)ethanol	9.40	9.21	9.59
2,2'-Oxybisethanol	10.10	9.90	10.30
Triethylene Glycol	11.06	10.84	11.29
Tetraethylene Glycol	12.62	12.36	12.87

Eurofins Savannah  
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31011.D  
 Lims ID: icv gly  
 Client ID:  
 Sample Type: ICV  
 Inject. Date: 31-Dec-2022 16:14:47      ALS Bottle#: 11      Worklist Smp#: 11  
 Injection Vol: 1.0 ul      Dil. Factor: 1.0000  
 Sample Info: 680-0083061-011  
 Operator ID:      Instrument ID: CVGG2  
 Sublist:

Method: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\8015\_GLY\_VGG.m  
 Limit Group: 8015C\_DAI  
 Last Update: 03-Jan-2023 13:01:01      Calib Date: 31-Dec-2022 15:52:08  
 Integrator: Falcon  
 Quant Method: Internal Standard      Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31010.D  
 Column 1 : J&W DB WAX ( 0.45 mm)      Det: GC FID2B  
 Process Host: CTX1607

First Level Reviewer: SWK1      Date: 03-Jan-2023 12:53:04

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
--------------	------------------	------------------	----------	------------------	--------------------	-------

1 Ethanol, 2-propoxy	3.816	3.811	0.005	1781905	20.0	22.4	
2 4-Hydroxy-4-methyl-2-pentanone	4.626	4.625	0.001	1891775	20.0	22.4	
3 2-Butoxyethanol	4.991	4.991	0.000	2012939	20.0	23.3	
* 4 n-Heptyl Alcohol	5.524	5.524	0.000	7043943	50.0	50.0	
5 Dipropylene Glycol Methyl Ether	6.637	6.637	0.000	162707	20.0	22.9	
6 Propylene glycol	7.561	7.545	0.016	1242083	20.0	20.5	M
7 Ethylene glycol	8.000	7.997	0.003	1156264	20.0	22.8	M
8 2-(2-Butoxyethoxy)ethanol	9.401	9.401	0.000	1790515	20.0	22.1	
9 2,2'-Oxybisethanol	10.102	10.102	0.000	1105060	20.0	21.2	
10 Triethylene Glycol	11.064	11.064	0.000	1130505	20.0	22.9	
11 Tetraethylene Glycol	12.615	12.614	0.001	2329419	40.0	46.4	

**QC Flag Legend**  
Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG\_GlyICV\_00052

Amount Added: 10.00

Units: uL

SG\_GLY\_ISTD\_00099

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31011.D

Injection Date: 31-Dec-2022 16:14:47

Instrument ID: CVGG2

Operator ID:

Lims ID: icv gly

Worklist Smp#: 11

Client ID:

Injection Vol: 1.0 ul

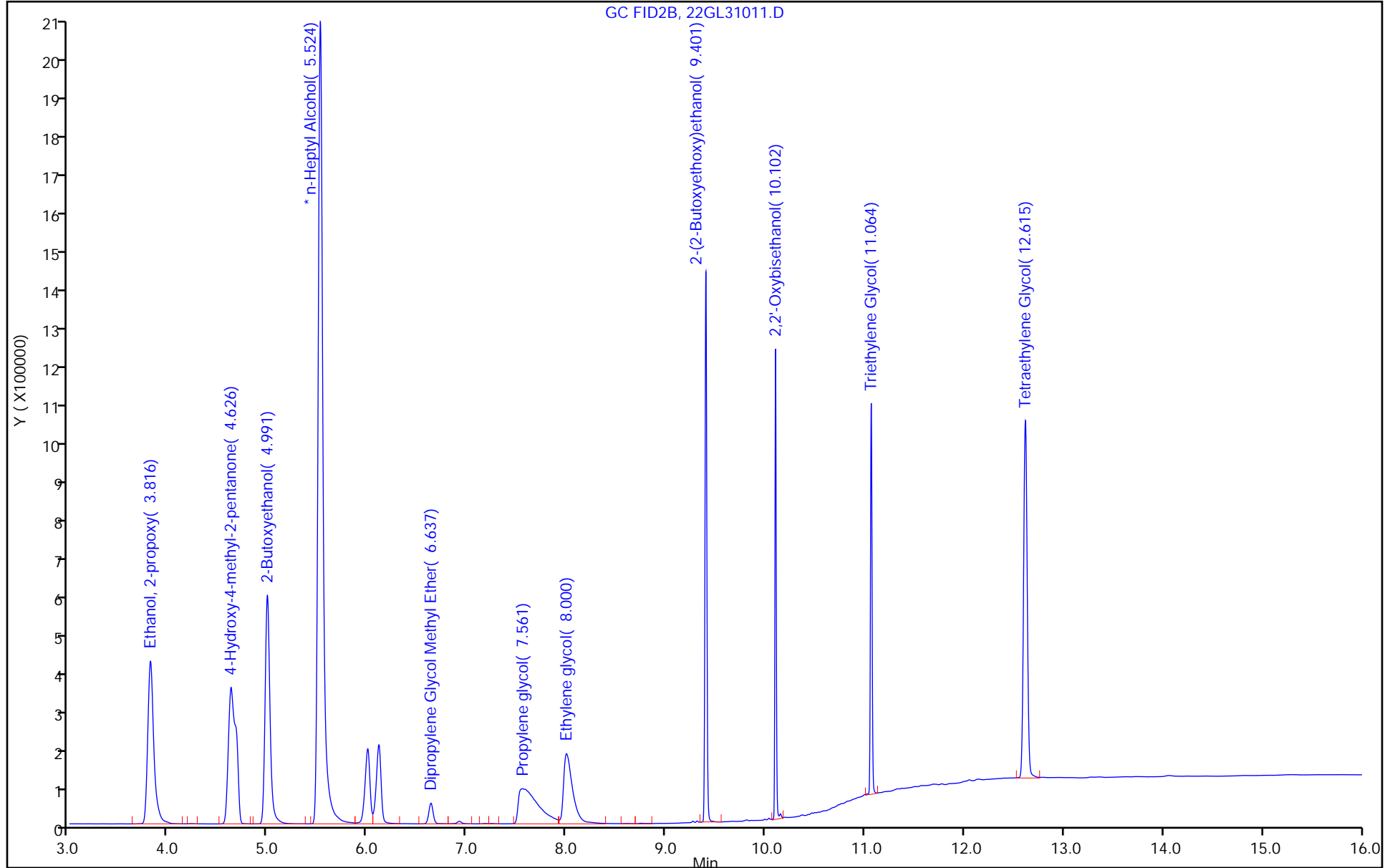
Dil. Factor: 1.0000

ALS Bottle#: 11

Method: 8015\_GLY\_VGG

Limit Group: 8015C\_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

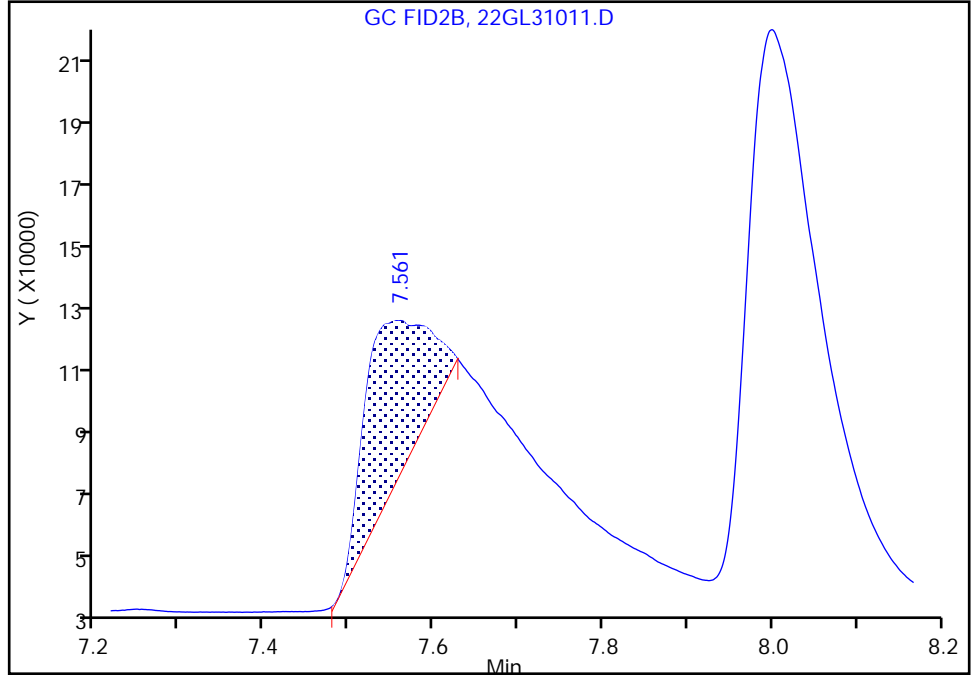
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31011.D  
Injection Date: 31-Dec-2022 16:14:47 Instrument ID: CVGG2  
Lims ID: icv gly  
Client ID:  
Operator ID: ALS Bottle#: 11 Worklist Smp#: 11  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: 8015\_GLY\_VGG Limit Group: 8015C\_DAI  
Column: J&W DB WAX ( 0.45 mm) Detector: GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

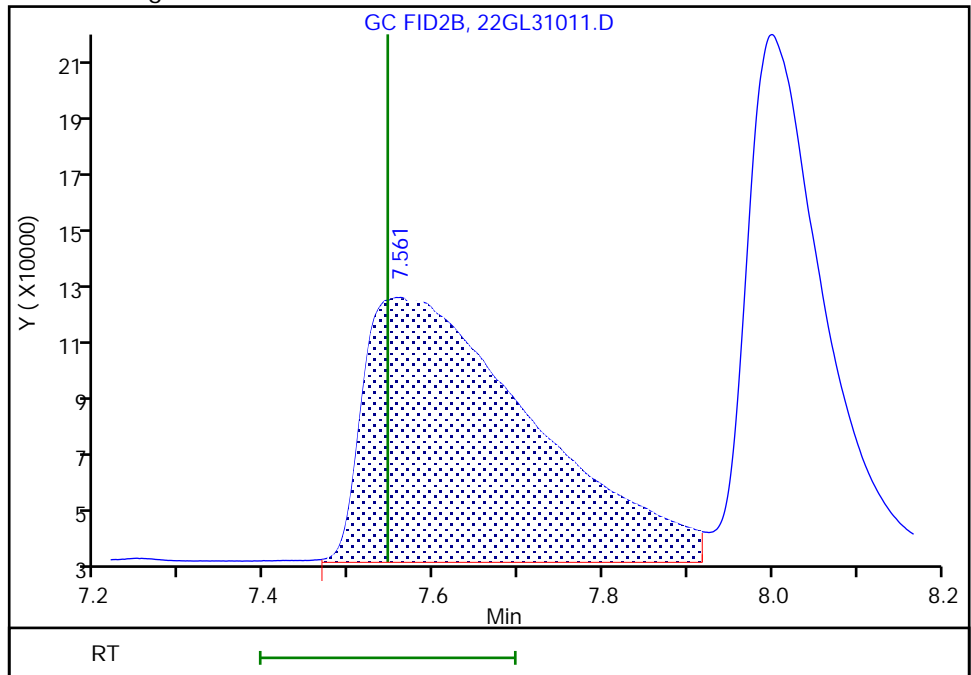
RT: 7.56  
Area: 265165  
Amount: 4.384806  
Amount Units: ug/ml

Processing Integration Results



RT: 7.56  
Area: 1242083  
Amount: 20.539263  
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 03-Jan-2023 12:53:01  
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah

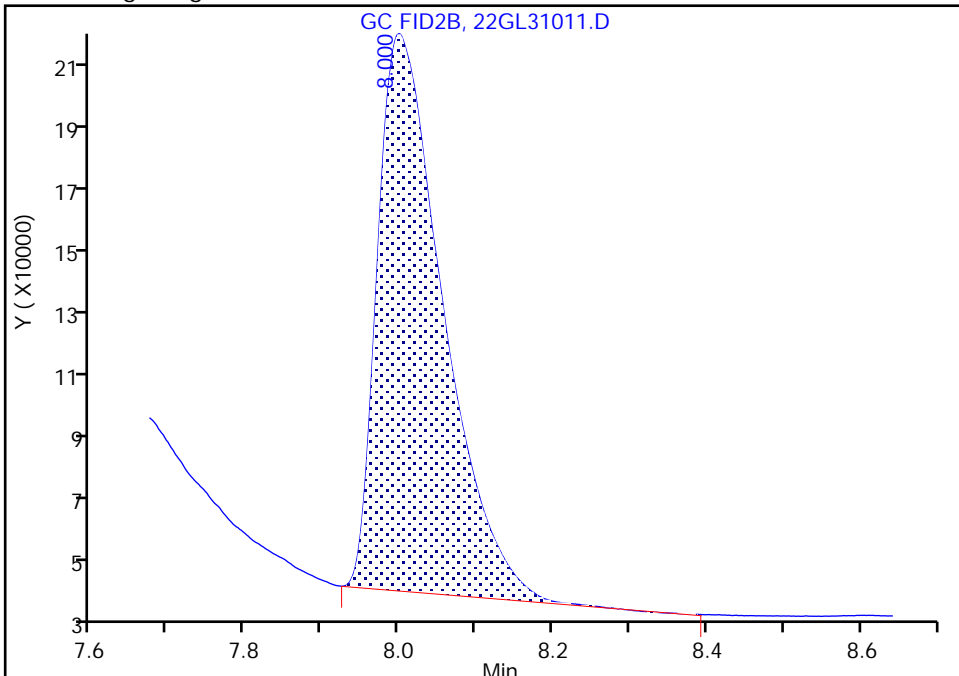
Data File:	\\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31011.D		
Injection Date:	31-Dec-2022 16:14:47	Instrument ID:	CVGG2
Lims ID:	icv gly		
Client ID:			
Operator ID:		ALS Bottle#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI
Column:	J&W DB WAX ( 0.45 mm)	Detector:	GC FID2B
		Worklist Smp#:	11

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

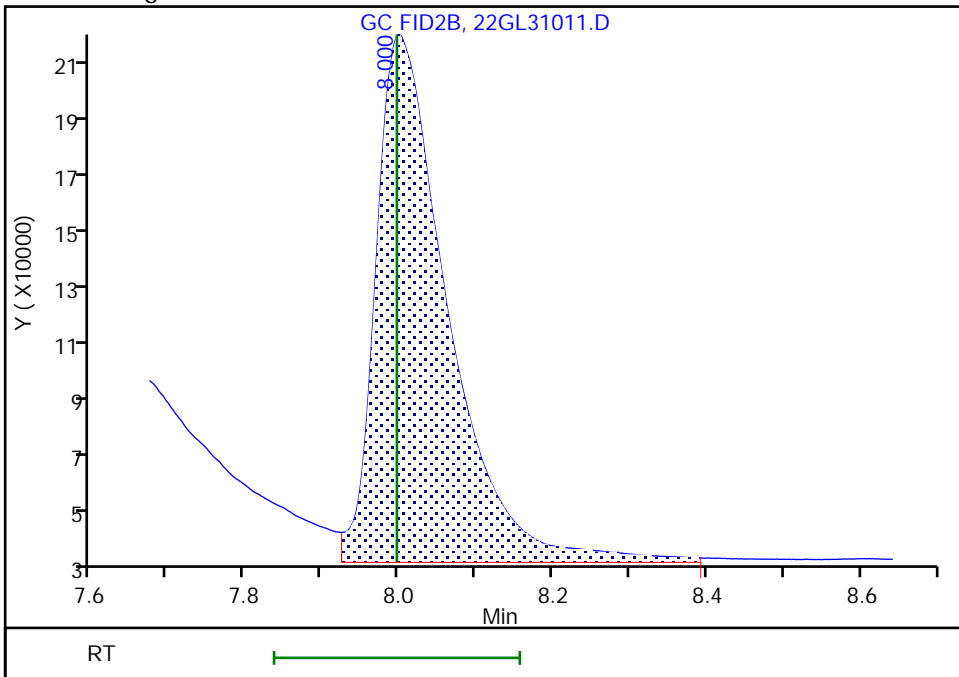
RT: 8.00  
Area: 1012312  
Amount: 19.921373  
Amount Units: ug/ml

Processing Integration Results



RT: 8.00  
Area: 1156264  
Amount: 22.754217  
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 03-Jan-2023 12:53:01  
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

FORM VII  
GC SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Savannah Job No.: 580-121536-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 680-757531/28 Calibration Date: 12/31/2022 22:40  
 Instrument ID: CVGG2 Calib Start Date: 12/31/2022 13:58  
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 12/31/2022 15:52  
 Lab File ID: 22GL31028.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol, 2-propoxy	Ave	0.5648	0.5885		20.8	20.0	4.2	20.0
4-Hydroxy-4-methyl-2-pentano ne	Ave	0.6006	0.6161		20.5	20.0	2.6	20.0
2-Butoxyethanol	Ave	0.6134	0.6658		21.7	20.0	8.5	20.0
Dipropylene Glycol Methyl Ether	Ave	0.0505	0.0531		21.0	20.0	5.2	20.0
Propylene glycol	Ave	0.4293	0.3774		17.6	20.0	-12.1	20.0
Ethylene glycol	Ave	0.3607	0.3213		17.8	20.0	-10.9	20.0
2-(2-Butoxyethoxy)ethanol	Ave	0.5756	0.5821		20.2	20.0	1.1	20.0
2,2'-Oxybisethanol	Ave	0.3694	0.2936		15.9	20.0	-20.5*	20.0
Triethylene Glycol	Ave	0.3506	0.2076		11.8	20.0	-40.8*	20.0
Tetraethylene Glycol	Ave	0.3563	0.1196		13.4	40.0	-66.4*	20.0

FORM VII  
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121536-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 680-757531/28 Calibration Date: 12/31/2022 22:40  
 Instrument ID: CVGG2 Calib Start Date: 12/31/2022 13:58  
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 12/31/2022 15:52  
 Lab File ID: 22GL31028.D

Analyte	RT	RT WINDOW	
		FROM	TO
Ethanol, 2-propoxy	3.82	3.74	3.90
4-Hydroxy-4-methyl-2-pentanone	4.63	4.54	4.72
2-Butoxyethanol	5.00	4.90	5.10
Dipropylene Glycol Methyl Ether	6.64	6.51	6.78
Propylene glycol	7.58	7.43	7.73
Ethylene glycol	8.01	7.85	8.17
2-(2-Butoxyethoxy)ethanol	9.40	9.22	9.59
2,2'-Oxybisethanol	10.10	9.90	10.31
Triethylene Glycol	11.07	10.84	11.29
Tetraethylene Glycol	12.62	12.36	12.87



Eurofins Savannah  
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31028.D  
 Lims ID: ccv g3  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 31-Dec-2022 22:40:02      ALS Bottle#: 28      Worklist Smp#: 28  
 Injection Vol: 1.0 ul      Dil. Factor: 1.0000  
 Sample Info: 680-0083061-028  
 Operator ID:      Instrument ID: CVGG2  
 Sublist: chrom-8015\_GLY\_VGG\*sub2  
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\8015\_GLY\_VGG.m  
 Limit Group: 8015C\_DAI  
 Last Update: 03-Jan-2023 13:01:53      Calib Date: 31-Dec-2022 15:52:08  
 Integrator: Falcon  
 Quant Method: Internal Standard      Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31010.D  
 Column 1 : J&W DB WAX ( 0.45 mm)      Det: GC FID2B  
 Process Host: CTX1607

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
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1 Ethanol, 2-propoxy	3.819	3.819	0.000	1795884	20.0	20.8
2 4-Hydroxy-4-methyl-2-pentanone	4.631	4.631	0.000	1880237	20.0	20.5
3 2-Butoxyethanol	4.998	4.998	0.000	2031638	20.0	21.7
* 4 n-Heptyl Alcohol	5.528	5.528	0.000	7629121	50.0	50.0
5 Dipropylene Glycol Methyl Ether	6.643	6.643	0.000	162128	20.0	21.0
6 Propylene glycol	7.579	7.579	0.000	1151583	20.0	17.6
7 Ethylene glycol	8.009	8.009	0.000	980569	20.0	17.8
8 2-(2-Butoxyethoxy)ethanol	9.404	9.404	0.000	1776499	20.0	20.2
9 2,2'-Oxybisethanol	10.104	10.104	0.000	895964	20.0	15.9
10 Triethylene Glycol	11.065	11.065	0.000	633588	20.0	11.8
11 Tetraethylene Glycol	12.616	12.616	0.000	730014	40.0	13.4

**Reagents:**

SG\_Gly\_CAL\_00052      Amount Added: 10.00      Units: uL  
 SG\_GLY\_ISTD\_00099      Amount Added: 10.00      Units: uL      Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31028.D

Injection Date: 31-Dec-2022 22:40:02

Instrument ID: CVGG2

Operator ID:

Lims ID: ccv g3

Worklist Smp#: 28

Client ID:

Injection Vol: 1.0 ul

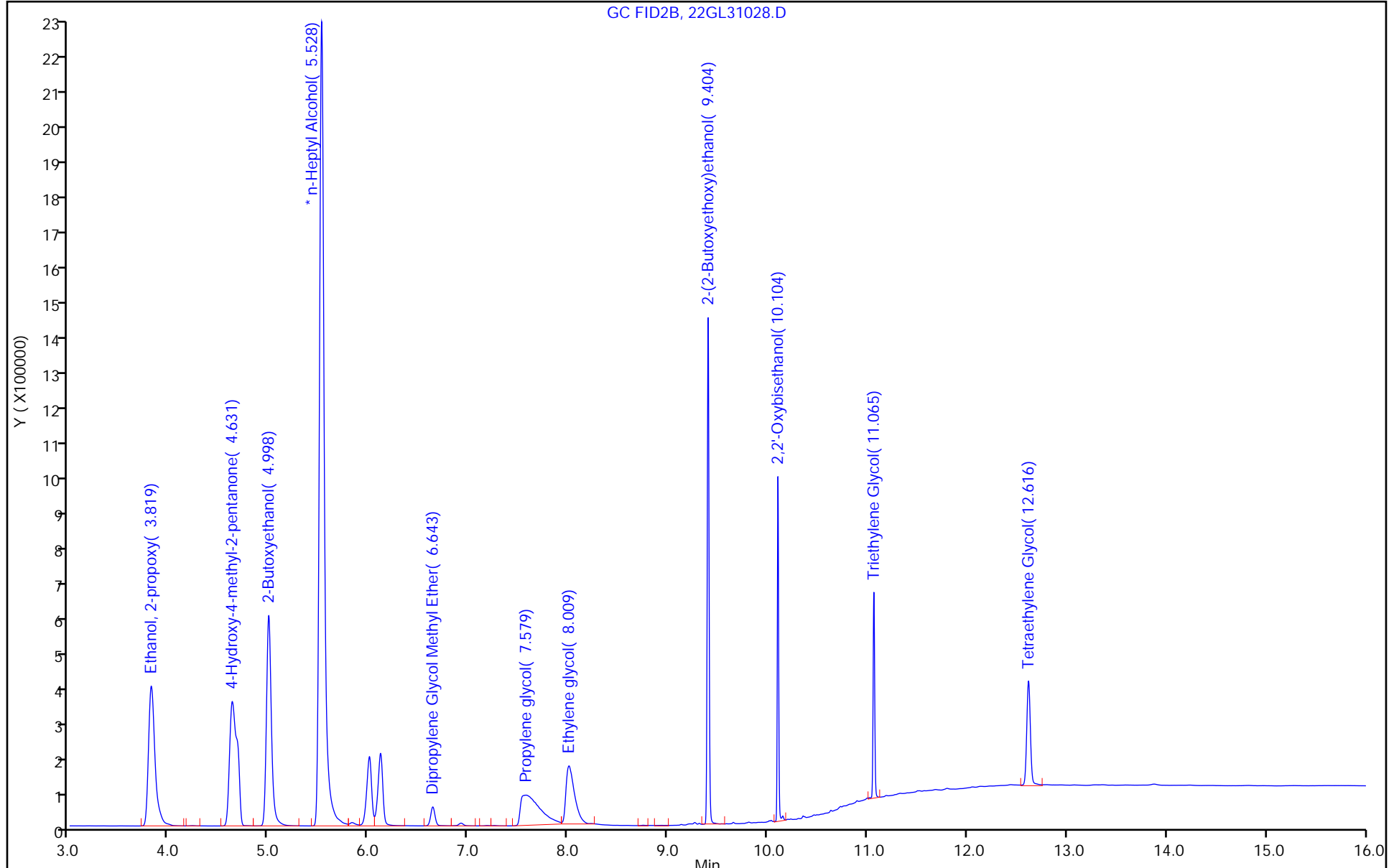
Dil. Factor: 1.0000

ALS Bottle#: 28

Method: 8015\_GLY\_VGG

Limit Group: 8015C\_DAI

Column: J&W DB WAX (0.45 mm)



FORM VII  
GC SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Savannah Job No.: 580-121536-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 680-757531/38 Calibration Date: 01/01/2023 02:26  
 Instrument ID: CVGG2 Calib Start Date: 12/31/2022 13:58  
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 12/31/2022 15:52  
 Lab File ID: 22GL31038.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol, 2-propoxy	Ave	0.5648	0.5811		20.6	20.0	2.9	20.0
4-Hydroxy-4-methyl-2-pentano ne	Ave	0.6006	0.5973		19.9	20.0	-0.5	20.0
2-Butoxyethanol	Ave	0.6134	0.6556		21.4	20.0	6.9	20.0
Dipropylene Glycol Methyl Ether	Ave	0.0505	0.0453		17.9	20.0	-10.4	20.0
Propylene glycol	Ave	0.4293	0.3631		16.9	20.0	-15.4	20.0
Ethylene glycol	Ave	0.3607	0.3447		19.1	20.0	-4.4	20.0
2-(2-Butoxyethoxy)ethanol	Ave	0.5756	0.5775		20.1	20.0	0.3	20.0
2,2'-Oxybisethanol	Ave	0.3694	0.3330		18.0	20.0	-9.9	20.0
Triethylene Glycol	Ave	0.3506	0.3044		17.4	20.0	-13.2	20.0
Tetraethylene Glycol	Ave	0.3563	0.1891		21.2	40.0	-46.9*	20.0

FORM VII  
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121536-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 680-757531/38 Calibration Date: 01/01/2023 02:26  
 Instrument ID: CVGG2 Calib Start Date: 12/31/2022 13:58  
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 12/31/2022 15:52  
 Lab File ID: 22GL31038.D

Analyte	RT	RT WINDOW	
		FROM	TO
Ethanol, 2-propoxy	3.81	3.74	3.89
4-Hydroxy-4-methyl-2-pentanone	4.63	4.54	4.72
2-Butoxyethanol	5.00	4.90	5.10
Dipropylene Glycol Methyl Ether	6.64	6.51	6.78
Propylene glycol	7.58	7.42	7.73
Ethylene glycol	8.01	7.85	8.17
2-(2-Butoxyethoxy)ethanol	9.40	9.21	9.59
2,2'-Oxybisethanol	10.10	9.90	10.31
Triethylene Glycol	11.07	10.84	11.29
Tetraethylene Glycol	12.62	12.36	12.87

Eurofins Savannah  
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31038.D  
 Lims ID: ccv g3  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 01-Jan-2023 02:26:35 ALS Bottle#: 38 Worklist Smp#: 38  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 680-0083061-038  
 Operator ID: Instrument ID: CVGG2  
 Sublist: chrom-8015\_GLY\_VGG\*sub2  
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\8015\_GLY\_VGG.m  
 Limit Group: 8015C\_DAI  
 Last Update: 03-Jan-2023 13:06:17 Calib Date: 31-Dec-2022 15:52:08  
 Integrator: Falcon  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31010.D  
 Column 1 : J&W DB WAX ( 0.45 mm) Det: GC FID2B  
 Process Host: CTX1607

First Level Reviewer: SWK1 Date: 03-Jan-2023 13:06:01

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy	3.813	3.813	0.000	1686879	20.0	20.6
2 4-Hydroxy-4-methyl-2-pentanone	4.630	4.630	0.000	1733925	20.0	19.9
3 2-Butoxyethanol	4.995	4.995	0.000	1903181	20.0	21.4
* 4 n-Heptyl Alcohol	5.529	5.529	0.000	7257216	50.0	50.0
5 Dipropylene Glycol Methyl Ether	6.642	6.642	0.000	131422	20.0	17.9
6 Propylene glycol	7.575	7.575	0.000	1053980	20.0	16.9 M
7 Ethylene glycol	8.007	8.007	0.000	1000598	20.0	19.1 M
8 2-(2-Butoxyethoxy)ethanol	9.402	9.402	0.000	1676398	20.0	20.1
9 2,2'-Oxybisethanol	10.103	10.103	0.000	966519	20.0	18.0
10 Triethylene Glycol	11.066	11.066	0.000	883639	20.0	17.4
11 Tetraethylene Glycol	12.616	12.616	0.000	1098122	40.0	21.2

QC Flag Legend  
Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG\_Gly\_CAL\_00052

Amount Added: 10.00

Units: uL

SG\_GLY\_ISTD\_00099

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31038.D

Injection Date: 01-Jan-2023 02:26:35

Instrument ID: CVGG2

Operator ID:

Lims ID: ccv g3

Worklist Smp#: 38

Client ID:

Injection Vol: 1.0 ul

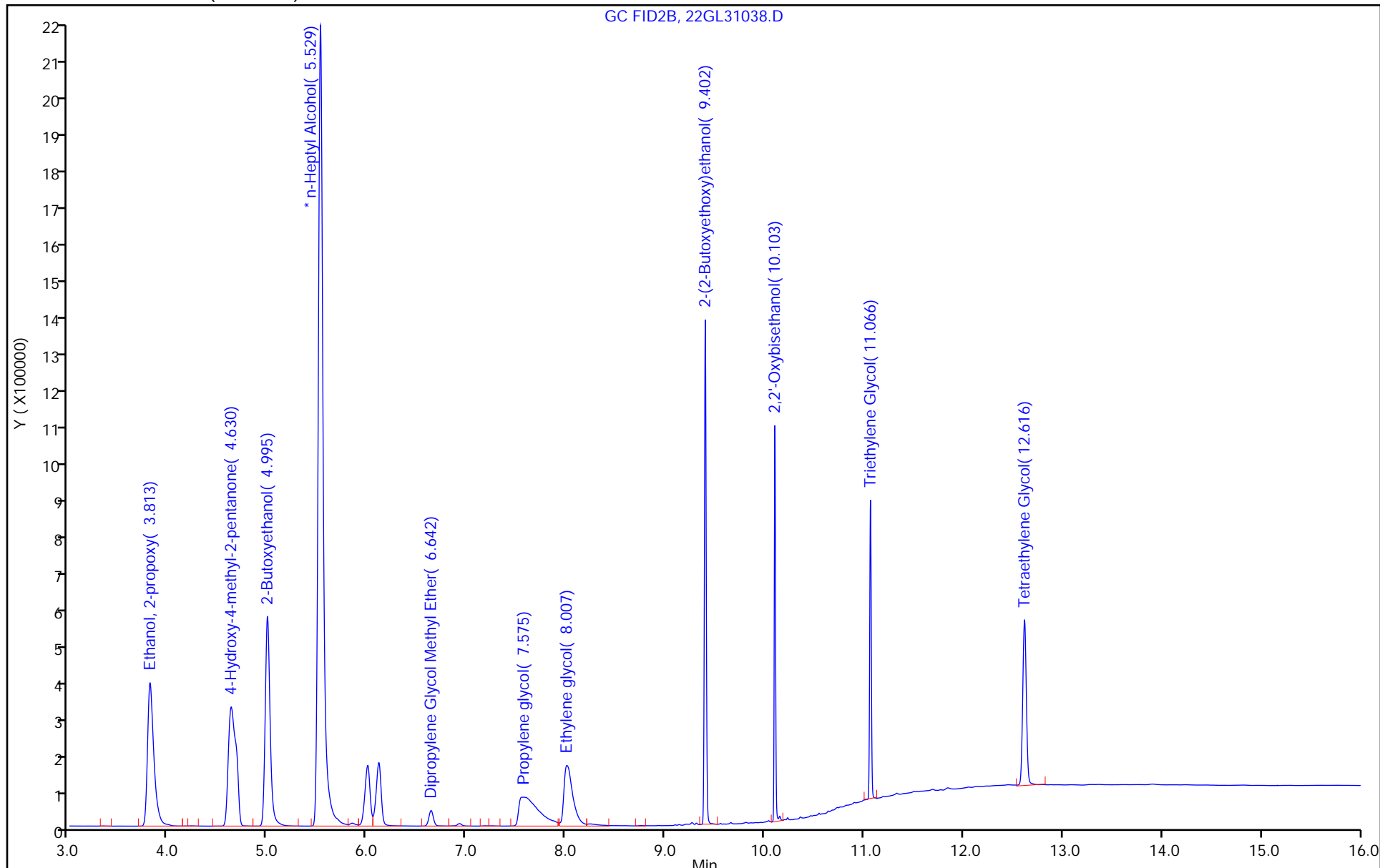
Dil. Factor: 1.0000

ALS Bottle#: 38

Method: 8015\_GLY\_VGG

Limit Group: 8015C\_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

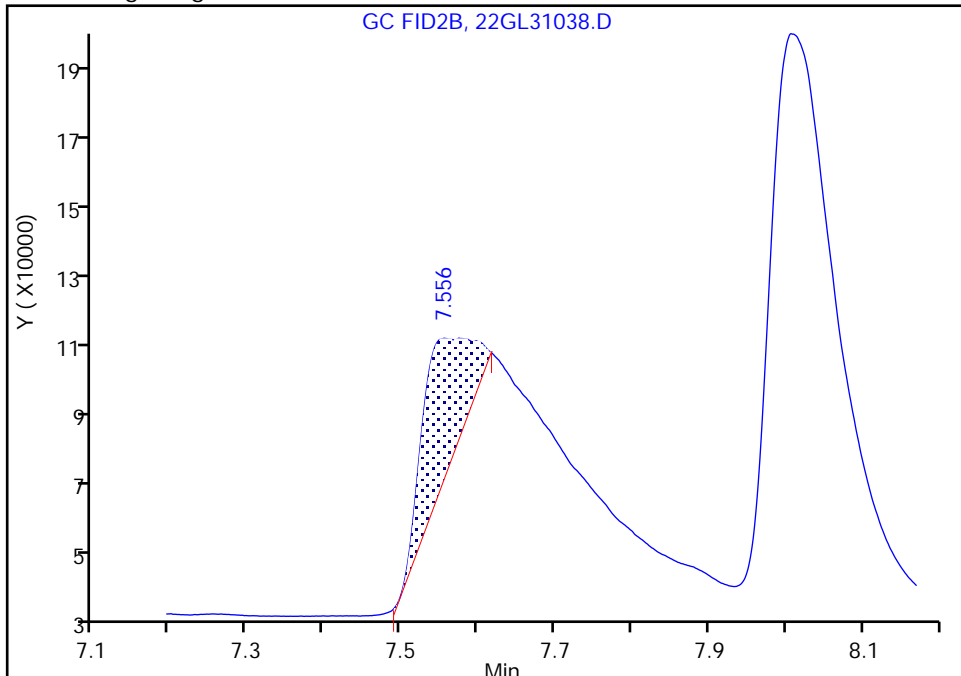
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31038.D  
Injection Date: 01-Jan-2023 02:26:35 Instrument ID: CVGG2  
Lims ID: ccv g3  
Client ID:  
Operator ID: ALS Bottle#: 38 Worklist Smp#: 38  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: 8015\_GLY\_VGG Limit Group: 8015C\_DAI  
Column: J&W DB WAX ( 0.45 mm) Detector: GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

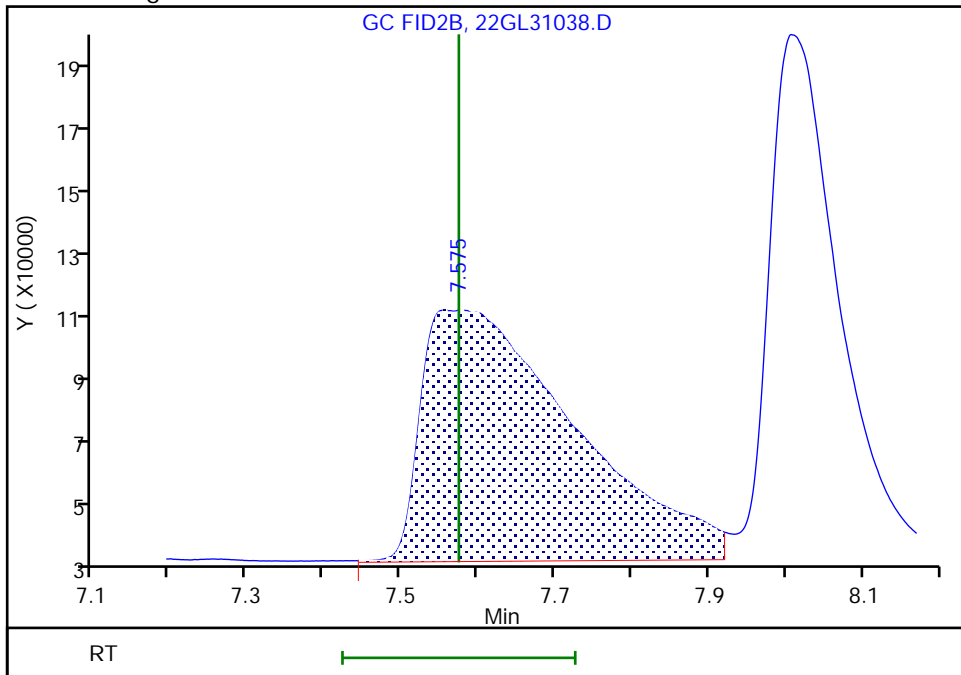
RT: 7.56  
Area: 163673  
Amount: 2.626982  
Amount Units: ug/ml

Processing Integration Results



RT: 7.57  
Area: 1053980  
Amount: 16.916573  
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 03-Jan-2023 13:05:57  
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing



Eurofins Savannah

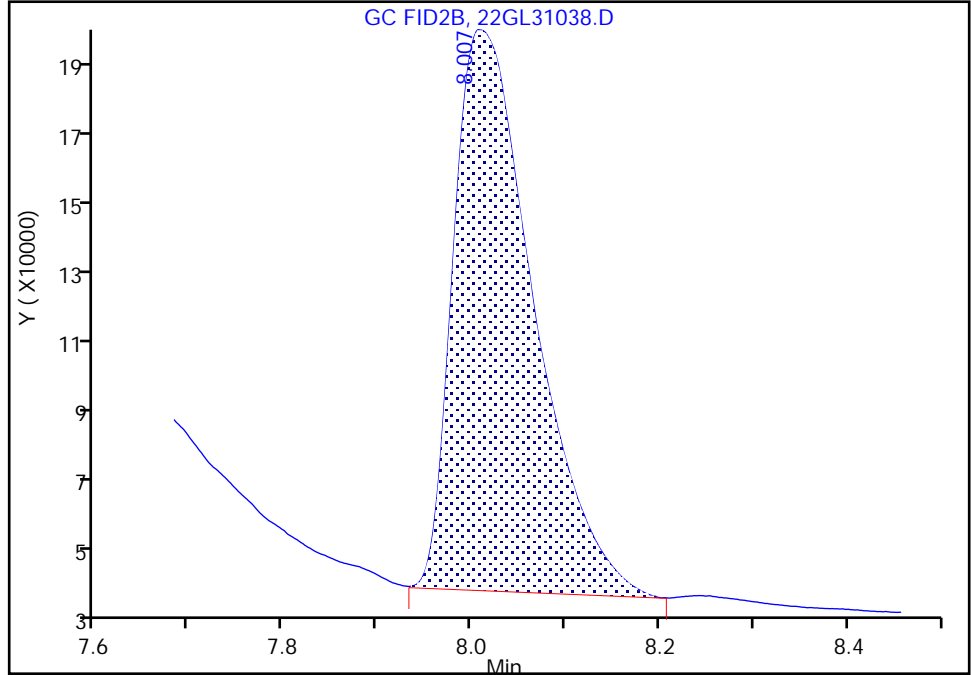
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31038.D  
Injection Date: 01-Jan-2023 02:26:35 Instrument ID: CVGG2  
Lims ID: ccv g3  
Client ID:  
Operator ID: ALS Bottle#: 38 Worklist Smp#: 38  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: 8015\_GLY\_VGG Limit Group: 8015C\_DAI  
Column: J&W DB WAX ( 0.45 mm) Detector: GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

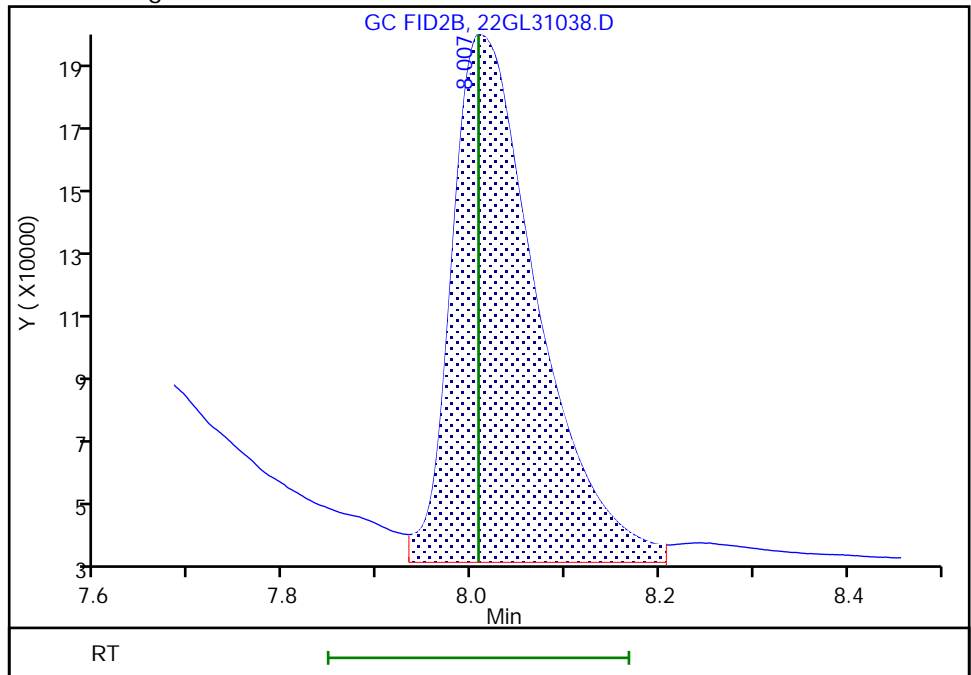
RT: 8.01  
Area: 895285  
Amount: 17.100625  
Amount Units: ug/ml

Processing Integration Results



RT: 8.01  
Area: 1000598  
Amount: 19.112183  
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 03-Jan-2023 13:05:57  
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

FORM I  
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-121536-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 680-757531/16  
 Matrix: Water Lab File ID: 22GL31016.D  
 Analysis Method: 8015C GLY Date Collected: \_\_\_\_\_  
 Extraction Method: \_\_\_\_\_ Date Extracted: \_\_\_\_\_  
 Sample wt/vol: 1(mL) Date Analyzed: 12/31/2022 18:08  
 Con. Extract Vol.: 1(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: J&W DB WAX ID: 0.45(mm)  
 % Moisture: \_\_\_\_\_ % Solids: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Cleanup Factor: \_\_\_\_\_  
 Analysis Batch No.: 757531 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	3.0	U	5.0	3.0	1.1

Eurofins Savannah  
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31016.D  
 Lims ID: mb  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 31-Dec-2022 18:08:06      ALS Bottle#: 16      Worklist Smp#: 16  
 Injection Vol: 1.0 ul      Dil. Factor: 1.0000  
 Sample Info: 680-0083061-016  
 Operator ID:      Instrument ID: CVGG2  
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\8015\_GLY\_VGG.m  
 Limit Group: 8015C\_DAI  
 Last Update: 03-Jan-2023 13:01:01      Calib Date: 31-Dec-2022 15:52:08  
 Integrator: Falcon  
 Quant Method: Internal Standard      Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31010.D  
 Column 1 : J&W DB WAX ( 0.45 mm)      Det: GC FID2B  
 Process Host: CTX1607

First Level Reviewer: SWK1      Date: 03-Jan-2023 13:00:56

RT (min.)	Exp RT (min.)	Diff RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
--------------	------------------	-------------------	----------	------------------	--------------------	-------

3 2-Butoxyethanol						
4.990	4.991	-0.001	8443		0.0975	7
LOD = 0.5000						
* 4 n-Heptyl Alcohol						
5.527	5.524	0.003	7059155	50.0	50.0	

**QC Flag Legend**

Processing Flags  
 7 - Failed Limit of Detection

**Reagents:**

SG\_GLY\_ISTD\_00099      Amount Added: 10.00      Units: uL      Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31016.D

Injection Date: 31-Dec-2022 18:08:06

Instrument ID: CVGG2

Operator ID:

Lims ID: mb

Worklist Smp#: 16

Client ID:

Injection Vol: 1.0 ul

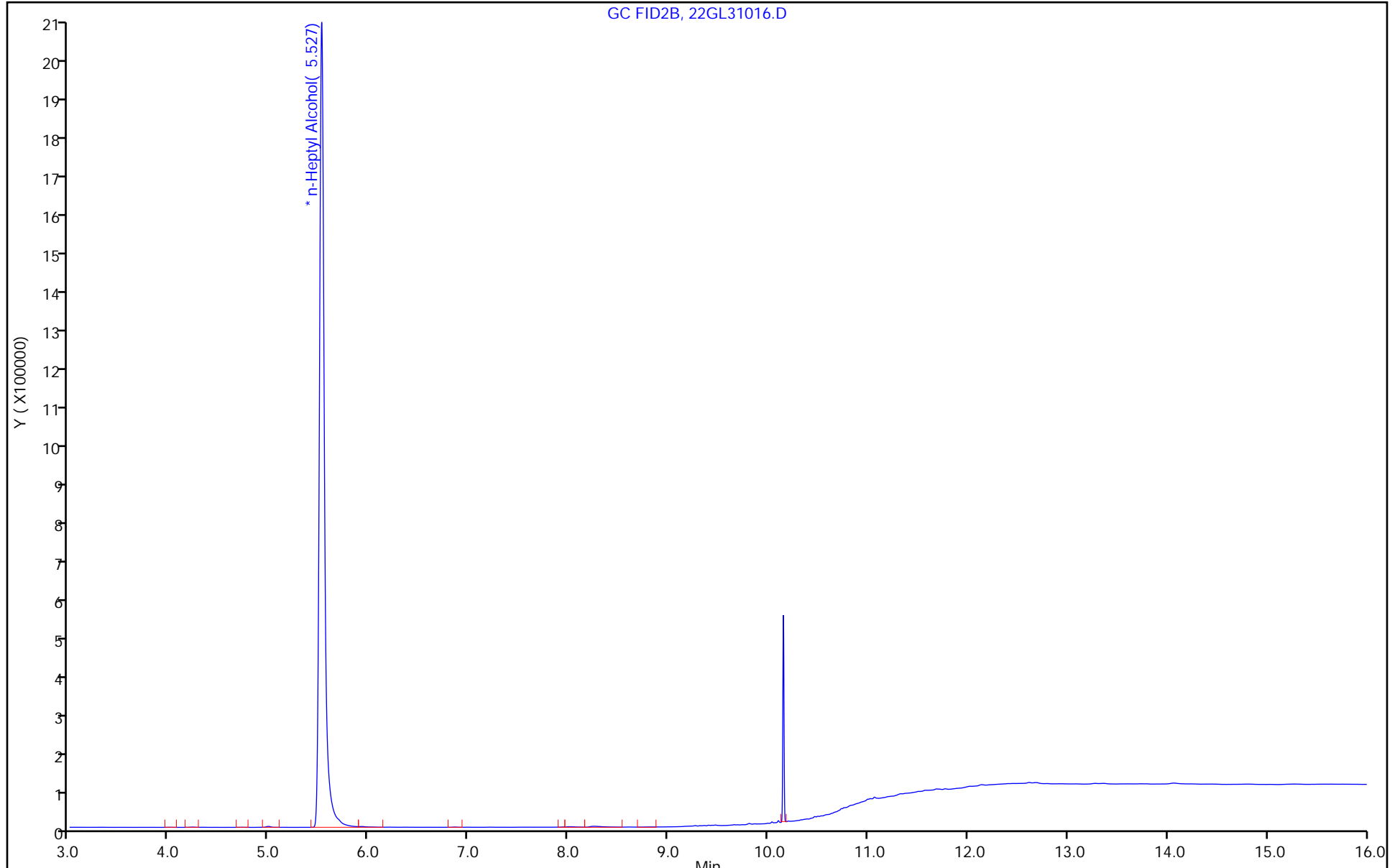
Dil. Factor: 1.0000

ALS Bottle#: 16

Method: 8015\_GLY\_VGG

Limit Group: 8015C\_DAI

Column: J&W DB WAX (0.45 mm)



FORM I  
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-121536-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 680-757531/12  
 Matrix: Water Lab File ID: 22GL31012.D  
 Analysis Method: 8015C GLY Date Collected: \_\_\_\_\_  
 Extraction Method: \_\_\_\_\_ Date Extracted: \_\_\_\_\_  
 Sample wt/vol: 1(mL) Date Analyzed: 12/31/2022 16:37  
 Con. Extract Vol.: 1(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: J&W DB WAX ID: 0.45(mm)  
 % Moisture: \_\_\_\_\_ % Solids: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Cleanup Factor: \_\_\_\_\_  
 Analysis Batch No.: 757531 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	20.7		5.0	3.0	1.1

Eurofins Savannah  
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31012.D  
 Lims ID: lcs  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 31-Dec-2022 16:37:24 ALS Bottle#: 12 Worklist Smp#: 12  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 680-0083061-012  
 Operator ID: Instrument ID: CVGG2  
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\8015\_GLY\_VGG.m  
 Limit Group: 8015C\_DAI  
 Last Update: 03-Jan-2023 13:01:01 Calib Date: 31-Dec-2022 15:52:08  
 Integrator: Falcon  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31010.D  
 Column 1 : J&W DB WAX ( 0.45 mm) Det: GC FID2B  
 Process Host: CTX1607

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
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1 Ethanol, 2-propoxy	3.815	3.811	0.004	1725642	20.0	21.2
2 4-Hydroxy-4-methyl-2-pentanone	4.626	4.625	0.001	1829569	20.0	21.1
3 2-Butoxyethanol	4.992	4.991	0.001	1955028	20.0	22.1
* 4 n-Heptyl Alcohol	5.525	5.524	0.001	7202300	50.0	50.0
5 Dipropylene Glycol Methyl Ether	6.637	6.637	0.000	156056	20.0	21.4
6 Propylene glycol	7.570	7.545	0.025	1179531	20.0	19.1
7 Ethylene glycol	8.000	7.997	0.003	1104836	20.0	21.3
8 2-(2-Butoxyethoxy)ethanol	9.401	9.401	0.000	1718918	20.0	20.7
9 2,2'-Oxybisethanol	10.102	10.102	0.000	1061132	20.0	19.9
10 Triethylene Glycol	11.064	11.064	0.000	1103386	20.0	21.9
11 Tetraethylene Glycol	12.615	12.614	0.001	2229113	40.0	43.4

Reagents:

SG\_GlylCV\_00052 Amount Added: 10.00 Units: uL  
 SG\_GLY\_ISTD\_00099 Amount Added: 10.00 Units: uL Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31012.D

Injection Date: 31-Dec-2022 16:37:24

Instrument ID: CVGG2

Operator ID:

Lims ID: lcs

Worklist Smp#: 12

Client ID:

Injection Vol: 1.0 ul

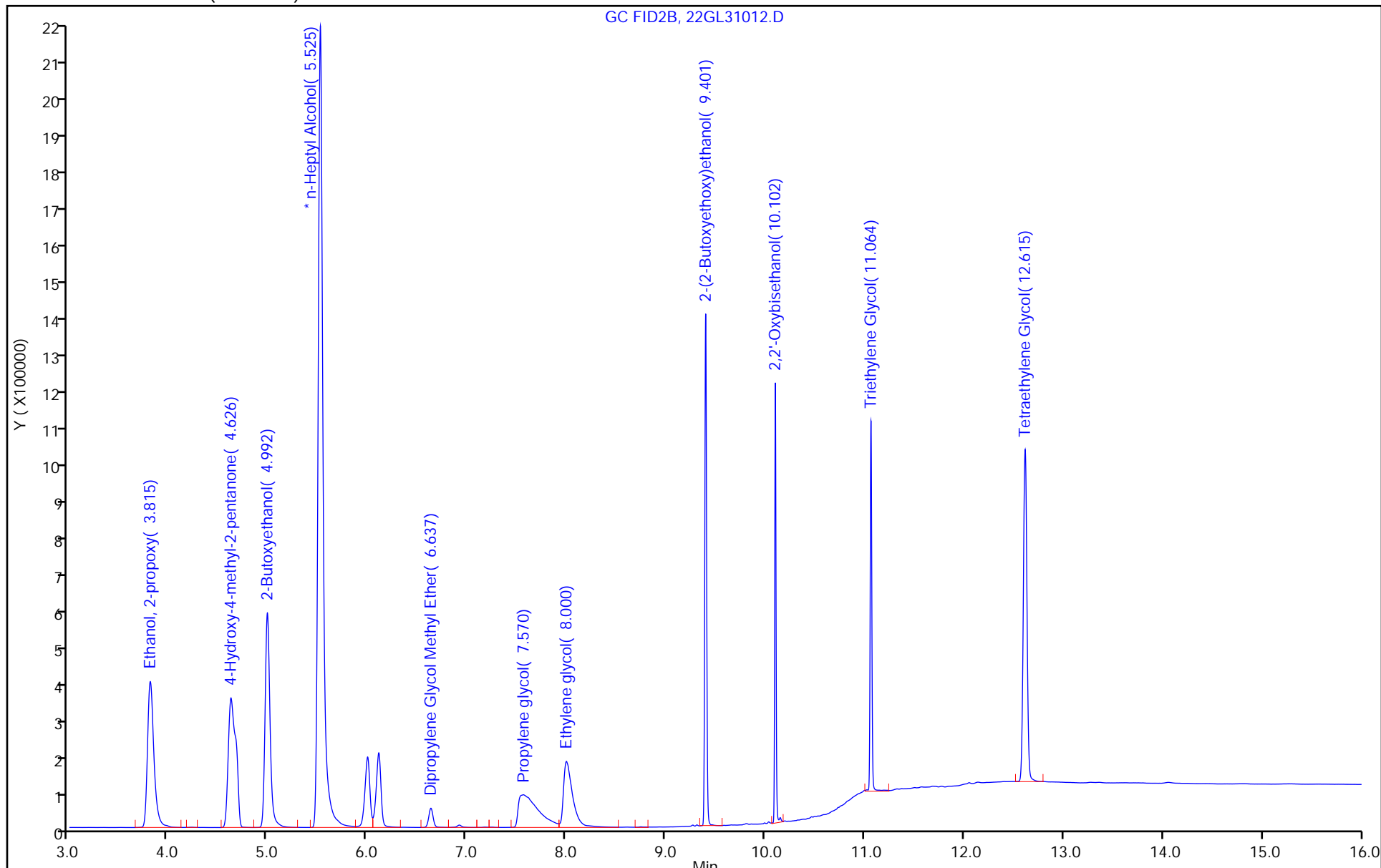
Dil. Factor: 1.0000

ALS Bottle#: 12

Method: 8015\_GLY\_VGG

Limit Group: 8015C\_DAI

Column: J&W DB WAX (0.45 mm)



FORM I  
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-121536-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 680-757531/13  
 Matrix: Water Lab File ID: 22GL31013.D  
 Analysis Method: 8015C GLY Date Collected: \_\_\_\_\_  
 Extraction Method: \_\_\_\_\_ Date Extracted: \_\_\_\_\_  
 Sample wt/vol: 1(mL) Date Analyzed: 12/31/2022 17:00  
 Con. Extract Vol.: 1(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: J&W DB WAX ID: 0.45(mm)  
 % Moisture: \_\_\_\_\_ % Solids: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Cleanup Factor: \_\_\_\_\_  
 Analysis Batch No.: 757531 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	21.6		5.0	3.0	1.1



Eurofins Savannah  
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31013.D  
 Lims ID: lcsd  
 Client ID:  
 Sample Type: LCSD  
 Inject. Date: 31-Dec-2022 17:00:09 ALS Bottle#: 13 Worklist Smp#: 13  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 680-0083061-013  
 Operator ID: Instrument ID: CVGG2  
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\8015\_GLY\_VGG.m  
 Limit Group: 8015C\_DAI  
 Last Update: 03-Jan-2023 13:01:01 Calib Date: 31-Dec-2022 15:52:08  
 Integrator: Falcon  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31010.D  
 Column 1 : J&W DB WAX ( 0.45 mm) Det: GC FID2B  
 Process Host: CTX1607

First Level Reviewer: SWK1 Date: 03-Jan-2023 13:00:45

RT (min.)	Exp RT (min.)	Diff RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
3.809	3.811	-0.002	1800489	20.0	22.2	
2 4-Hydroxy-4-methyl-2-pentanone						
4.626	4.625	0.001	1898023	20.0	22.0	
3 2-Butoxyethanol						
4.990	4.991	-0.001	2037922	20.0	23.2	
* 4 n-Heptyl Alcohol						
5.524	5.524	0.000	7169170	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
6.638	6.637	0.001	152051	20.0	21.0	
6 Propylene glycol						
7.548	7.545	0.003	1142313	20.0	18.6	M
7 Ethylene glycol						
8.005	7.997	0.008	1092557	20.0	21.1	
8 2-(2-Butoxyethoxy)ethanol						
9.402	9.401	0.001	1779538	20.0	21.6	
9 2,2'-Oxybisethanol						
10.102	10.102	0.000	1101427	20.0	20.8	
10 Triethylene Glycol						
11.064	11.064	0.000	1142572	20.0	22.7	
11 Tetraethylene Glycol						
12.615	12.614	0.001	2320573	40.0	45.4	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG\_GlyICV\_00052

Amount Added: 10.00

Units: uL

SG\_GLY\_ISTD\_00099

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221231-83061.b\22GL31013.D

Injection Date: 31-Dec-2022 17:00:09

Instrument ID: CVGG2

Operator ID:

Lims ID: lcsd

Worklist Smp#: 13

Client ID:

Injection Vol: 1.0 ul

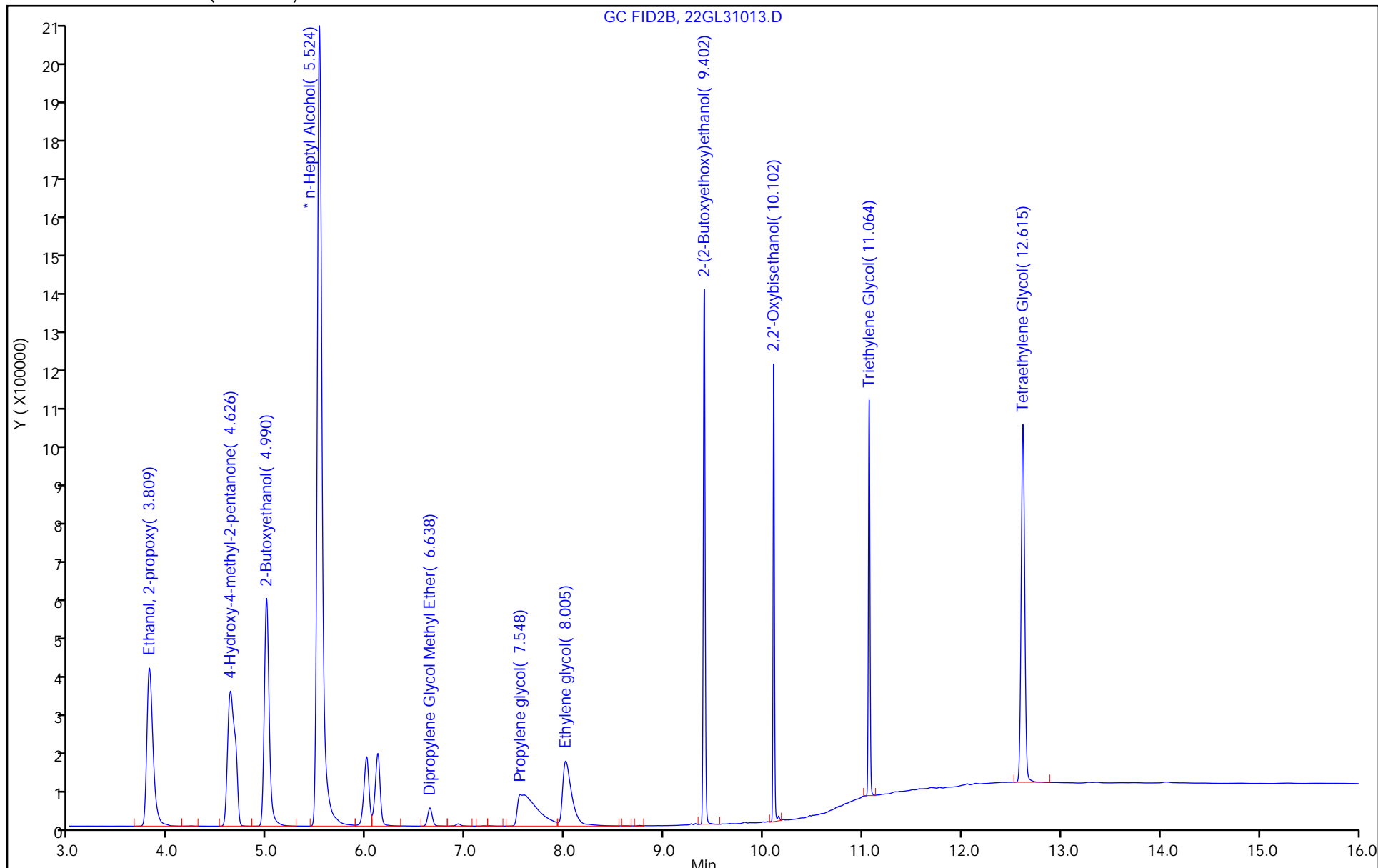
Dil. Factor: 1.0000

ALS Bottle#: 13

Method: 8015\_GLY\_VGG

Limit Group: 8015C\_DAI

Column: J&W DB WAX (0.45 mm)



GC SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Savannah Job No.: 580-121536-1

SDG No.: \_\_\_\_\_

Instrument ID: CVGG2 Start Date: 12/31/2022 13:58

Analysis Batch Number: 757531 End Date: 01/01/2023 02:26

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 680-757531/5		12/31/2022 13:58	1	22GL31005.D	J&W DB WAX 0.45 (mm)
IC 680-757531/6		12/31/2022 14:21	1	22GL31006.D	J&W DB WAX 0.45 (mm)
ICIS 680-757531/7		12/31/2022 14:44	1	22GL31007.D	J&W DB WAX 0.45 (mm)
IC 680-757531/8		12/31/2022 15:06	1	22GL31008.D	J&W DB WAX 0.45 (mm)
IC 680-757531/9		12/31/2022 15:29	1	22GL31009.D	J&W DB WAX 0.45 (mm)
IC 680-757531/10		12/31/2022 15:52	1	22GL31010.D	J&W DB WAX 0.45 (mm)
ICV 680-757531/11		12/31/2022 16:14	1	22GL31011.D	J&W DB WAX 0.45 (mm)
LCS 680-757531/12		12/31/2022 16:37	1	22GL31012.D	J&W DB WAX 0.45 (mm)
LCSD 680-757531/13		12/31/2022 17:00	1	22GL31013.D	J&W DB WAX 0.45 (mm)
MB 680-757531/16		12/31/2022 18:08	1	22GL31016.D	J&W DB WAX 0.45 (mm)
ZZZZZ		12/31/2022 18:30	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/31/2022 18:53	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/31/2022 19:16	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/31/2022 19:38	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/31/2022 20:01	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/31/2022 20:24	1		J&W DB WAX 0.45 (mm)
580-121536-1	AF-RHMW12A-WGN01LF-22 12W3	12/31/2022 20:46	1	22GL31023.D	J&W DB WAX 0.45 (mm)
580-121536-2	AF-RHMW12A-WGFD01LF-2 212W3	12/31/2022 21:09	1	22GL31024.D	J&W DB WAX 0.45 (mm)
ZZZZZ		12/31/2022 21:32	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/31/2022 21:54	1		J&W DB WAX 0.45 (mm)
CCV 680-757531/28		12/31/2022 22:40	1	22GL31028.D	J&W DB WAX 0.45 (mm)
ZZZZZ		12/31/2022 23:47	1		J&W DB WAX 0.45 (mm)
ZZZZZ		01/01/2023 00:10	1		J&W DB WAX 0.45 (mm)
ZZZZZ		01/01/2023 00:33	1		J&W DB WAX 0.45 (mm)
ZZZZZ		01/01/2023 00:56	1		J&W DB WAX 0.45 (mm)
ZZZZZ		01/01/2023 01:18	1		J&W DB WAX 0.45 (mm)
ZZZZZ		01/01/2023 01:41	1		J&W DB WAX 0.45 (mm)
CCV 680-757531/38		01/01/2023 02:26	1	22GL31038.D	J&W DB WAX 0.45 (mm)

GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Savannah Job No.: 580-121536-1

SDG No.: \_\_\_\_\_

Batch Number: 757531 Batch Start Date: 12/31/22 13:58 Batch Analyst: Kellar, Joshua C

Batch Method: 8015C GLY Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	SG_Gly_CAL 00052	SG_GLY_ISTD 00099	SG_GlyICV 00052		
IC 680-757531/5		8015C GLY		1 mL	2.5 uL	10 uL			
IC 680-757531/6		8015C GLY		1 mL	5 uL	10 uL			
ICIS 680-757531/7		8015C GLY		1 mL	10 uL	10 uL			
IC 680-757531/8		8015C GLY		1 mL	25 uL	10 uL			
IC 680-757531/9		8015C GLY		1 mL	40 uL	10 uL			
IC 680-757531/10		8015C GLY		1 mL	50 uL	10 uL			
ICV 680-757531/11		8015C GLY		1 mL		10 uL	10 uL		
LCS 680-757531/12		8015C GLY		1 mL		10 uL	10 uL		
LCSD 680-757531/13		8015C GLY		1 mL		10 uL	10 uL		
MB 680-757531/16		8015C GLY		1 mL		10 uL			
580-121536-C-1	AF-RHMW12A-WGN01 LF-2212W3	8015C GLY	T	1 mL		10 uL			
580-121536-C-2	AF-RHMW12A-WGFD0 1LF-2212W3	8015C GLY	T	1 mL		10 uL			
CCV 680-757531/28		8015C GLY		1 mL	10 uL	10 uL			
CCV 680-757531/38		8015C GLY		1 mL	10 uL	10 uL			

Batch Notes	

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.

# Subcontract Data

# Shipping and Receiving Documents





# Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-121536-1

**Login Number: 121536**  
**List Number: 1**  
**Creator: Vallelunga, Diana L**

**List Source: Eurofins Seattle**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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.	N/A	
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 $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-121536-1

**Login Number: 121536**  
**List Number: 2**  
**Creator: Harley, Tynisha**

**List Source: Eurofins Savannah**  
**List Creation: 12/29/22 11:43 AM**

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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	