

Project: NA

Project Number: Petrik Lab - MTBE
Project Manager: Tom Lahey

Reported: 04/08/04 09:07

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DRAFT: Reactor Inlet-1	0404067-01	Liquid	04/02/04 17:37	04/06/04 17:05
DRAFT: Reactor Inlet-2	0404067-02	Liquid	04/02/04 17:47	04/06/04 17:05
DRAFT: Reactor Effluent-1	0404067-03	Liquid	04/02/04 17:56	04/06/04 17:05
DRAFT: Reactor Effluent-2	0404067-04	Liquid	04/02/04 18:09	04/06/04 17:05
DRAFT: Reactor Effluent-3	0404067-05	Liquid	04/02/04 18:22	04/06/04 17:05



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DRAFT: Fuel Oxygenates by EPA 8260B Sierra Analytical Labs, Inc.

Methyl tert-butyl ether	Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Dissipation ND 1.0 "	DRAFT: Reactor Inlet-1 (0404067-01) Liquid	Sample	ed: 04/02/04 1	17:37 R	eceived: 04	4/06/04 17:	05			
Strict S	Methyl tert-butyl ether	140	1.0	μg/L	1	B4D0813	04/07/04	04/07/04	EPA 8260B	
Tert-amyl methyl ether	Di-isopropyl ether	ND	1.0	"	"	"	"	"	"	
ND	Ethyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane Surrogate: Toluene-d8 100 % 86-118 " " " " " " " " " " " " " " " " " "	Tert-amyl methyl ether	ND	1.0	"	"	"	"	"	"	
Surrogate: Toluene-d8	Tert-butyl alcohol	ND	5.0	"	"	"	"	"	II .	
Surrogate: 4-Bromofluorobenzene 99.0 % 86-115 "	Surrogate: Dibromofluoromethane		100 %	86-	118	"	"	"	"	
Company Comp	Surrogate: Toluene-d8		102 %	88-	110	"	"	"	"	
Methyl tert-butyl ether 110 1.0 µg/L 1 B4D0813 04/07/04 04/07/04 EPA 8260B Di-isopropyl ether ND 1.0 " " " " " " " " " " " " " " " " " " "	Surrogate: 4-Bromofluorobenzene		99.0 %	86-	115	"	"	"	"	
Di-isopropyl ether ND 1.0 " " " " " " " " "	DRAFT: Reactor Inlet-2 (0404067-02) Liquid	Sample	ed: 04/02/04 1	17:47 R	eceived: 04	4/06/04 17:	05			
Di-isopropyl ether ND 1.0 " " " " " " " " "	Methyl tert-butyl ether	110	1.0	μg/L	1	B4D0813	04/07/04	04/07/04	EPA 8260B	
Tert-amyl methyl ether ND 1.0 " " " " " " " " " " " " " " " " " " "	Di-isopropyl ether	ND	1.0		"	"	"	"	m .	
Surrogate: Dibromofluoromethane 98.2 % 86-118 " " " " " " " " " " " " " " " " " "	Ethyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane Surrogate: Dibromofluoromethane Surrogate: Toluene-d8 Surrogate: 4-Bromofluorobenzene 97.2 % 86-115 """""""""""""""""""""""""""""""""""	Tert-amyl methyl ether	ND	1.0	"	"	"	"	"	"	
Surrogate: Toluene-d8 Surrogate: 4-Bromofluorobenzene 98.2 % 88-110 " " " " " " " " " " " " " " " " " "	Tert-butyl alcohol	ND	5.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene 97.2 % 86-115 " " " " " " " " PRAFT: Reactor Effluent-1 (0404067-03) Liquid Sampled: 04/02/04 17:56 Received: 04/06/04 17:05 Methyl tert-butyl ether ND 1.0 μg/L 1 B4D0813 04/07/04 04/07/04 EPA 8260B Di-isopropyl ether ND 1.0 " " " " " " " " " " " " " Ethyl tert-butyl ether ND 1.0 " " " " " " " " " " " " Tert-amyl methyl ether ND 1.0 " " " " " " " " " " " " " " Tert-butyl alcohol ND 5.0 " " " " " " " " " " " " " " " Surrogate: Dibromofluoromethane 105 % 86-118 86-118 " " " " " " " " " " " Surrogate: Toluene-d8 102 % 88-110 " " " " " " " " " " " " " " " "	Surrogate: Dibromofluoromethane		98.2 %	86-	118	"	"	"	"	
DRAFT: Reactor Effluent-1 (0404067-03) Liquid Sampled: 04/02/04 17:56 Received: 04/06/04 17:05 Methyl tert-butyl ether ND 1.0 μg/L 1 B4D0813 04/07/04 04/07/04 EPA 8260B Di-isopropyl ether ND 1.0 "	Surrogate: Toluene-d8		98.2 %	88-	110	"	"	"	"	
Methyl tert-butyl ether ND 1.0 μg/L 1 B4D0813 04/07/04 04/07/04 EPA 8260B Di-isopropyl ether ND 1.0 " " " " " " " " " " " " " " " " " " "	Surrogate: 4-Bromofluorobenzene		97.2 %	86-	115	"	"	"	"	
Di-isopropyl ether	DRAFT: Reactor Effluent-1 (0404067-03) Liq	uid Sar	mpled: 04/02/	04 17:56	Received	l: 04/06/04	17:05			
Di-isopropyl ether ND 1.0 " " " " " " " " " " " " " " " " " " "	Methyl tert-butyl ether	ND	1.0	μg/L	1	B4D0813	04/07/04	04/07/04	EPA 8260B	
Fert-amyl methyl ether ND 1.0 " <td>Di-isopropyl ether</td> <td>ND</td> <td>1.0</td> <td></td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>n .</td> <td></td>	Di-isopropyl ether	ND	1.0		"	"	"	"	n .	
Tert-butyl alcohol ND 5.0 "	Ethyl tert-butyl ether	ND	1.0	"	"	"	"	"	n .	
Tert-butyl alcohol ND 5.0 "	Tert-amyl methyl ether	ND	1.0	"	"	"	"	"	m .	
Surrogate: Toluene-d8 102 % 88-110 " " " "	Tert-butyl alcohol	ND	5.0	"	"	"	"	"	"	
Surrogate: Toluene-d8 102 % 88-110 " " " "	Surrogate: Dibromofluoromethane		105 %	86-	118	"	"	"	"	
Surrogate: 4-Bromofluorobenzene 102 % 86-115 " " " "	Surrogate: Toluene-d8		102 %	88-	110	"	"	"	"	
	Surrogate: 4-Bromofluorobenzene		102 %	86-	115	"	"	"	"	



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DRAFT: Fuel Oxygenates by EPA 8260B Sierra Analytical Labs, Inc.

Analyte	Resu	Reporting alt Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DRAFT: Reactor Effluent-2 (0404067-0	04) Liquid	Sampled: 04/02/	04 18:09	Received	l: 04/06/04	17:05			
Methyl tert-butyl ether	N.	D 1.0	μg/L	1	B4D0813	04/07/04	04/07/04	EPA 8260B	
Di-isopropyl ether	N.	D 1.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	N.	D 1.0	"	"	"	"	"	"	
Tert-amyl methyl ether	N.	D 1.0	"	"	"	"	"	"	
Tert-butyl alcohol	N.	D 5.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		105 %	86-	118	"	"	"	"	
Surrogate: Toluene-d8		104 %	88-	110	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	86-	115	"	"	"	"	
DRAFT: Reactor Effluent-3 (0404067-0)5) Liquid	Sampled: 04/02/	04 18:22	Received	l: 04/06/04	17:05			
Methyl tert-butyl ether	N.	D 1.0	μg/L	1	B4D0813	04/07/04	04/07/04	EPA 8260B	
Di-isopropyl ether	N.	D 1.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	N.	D 1.0	"	"	"	"	"	"	
Tert-amyl methyl ether	N.	D 1.0	"	"	"	"	"	"	
Tert-butyl alcohol	N.	D 5.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		102 %	86-	118	"	"	"	"	
Surrogate: Toluene-d8		103 %	88-	110	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	0.1	115	"	"	"	"	



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DRAFT: Fuel Oxygenates by EPA 8260B - Quality Control

Sierra Analytical Labs, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Ratch	B4D0813 -	FDA	5030B	D & T
вятсп	15417UA13 -	- r,ra	ついろいお	$P \sim 1$

Blank (B4D0813-BLK1)				Prepared & Ar	nalyzed: 04/07/	04		
Methyl tert-butyl ether	ND	1.0	μg/L					
Di-isopropyl ether	ND	1.0	"					
Ethyl tert-butyl ether	ND	1.0	"					
Tert-amyl methyl ether	ND	1.0	"					
Tert-butyl alcohol	ND	5.0	"					
Surrogate: Dibromofluoromethane	51.4		"	50.0	103	86-118		
Surrogate: Toluene-d8	49.8		"	50.0	99.6	88-110		
Surrogate: 4-Bromofluorobenzene	51.0		"	50.0	102	86-115		
LCS (B4D0813-BS1)	Prepared & Analyzed: 04/07/04							
Methyl tert-butyl ether	47.4	1.0	μg/L	50.0	94.8	80-120		



Vapor Extraction Technology 1060 Calle Negocio, Suite B

San Clemente CA, 92673

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Notes and Definitions

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference