

**Spreadsheet Example VCSB 10 ppm Sulfur in Butane Precision Demonstration [PBMS0009:OMB #2060-0731, Expires 1/31/2024].** This collection of information is approved by OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. OMB Control No 2060-0731. Responses to this collection of information are voluntary 1090 CFR 1360 through 1090 1365. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The public reporting and recordkeeping burden for this collection of information is estimated to average 180 hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden to the Regulatory Support Division Director, U.S. Environmental Protection Agency (2821T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

<b>Test Method</b>				
Name of Method:				
<b>Laboratory Identification</b>				
Laboratory Name:				
Laboratory Street Address:				
Laboratory City:				
Laboratory State:				
Laboratory Zip code:				
Laboratory Contact Person:				
Laboratory Contact Phone Number				
Laboratory Contact Facsimile Number				
Laboratory Contact E-mail Address				
<p><b>10 ppm Sulfur Precision Criterion</b> - The maximum allowable standard deviation computed from results of a minimum of 20 tests made over 20 days on samples using good laboratory practices taken from a single homogenous commercially available gasoline must be less than or equal to 1.5 times the repeatability (r) divided by 2.77, where "r" equals the ASTM repeatability of ASTM D6667-16(Reapproved 2019). Example: A 10ppm sulfur in butane sample: maximum allowable standard deviation of 20 tests less than or equal <math>1.5 \times (1.152 \text{ ppm} / 2.77) = 0.62383 \text{ ppm}</math>. You may make up to 4 separate measurements in a 24-hour period, as long as the interval between measurements is at least 4 hours.</p>				
Is 10 ppm Sulfur in Butane Precision Criterion Met?	<b>REQUIRED DATA MISSING</b>			
standard deviation	<b>REQUIRED DATA MISSING</b>			
Laboratory Test Identification Number	Date	Time	Test Result (ppm)	Data Entry QC Check on Test Result
				DATA REQUIRED IN CELL D18
				DATA REQUIRED IN CELL D19
				DATA REQUIRED IN CELL D20
				DATA REQUIRED IN CELL D21
				DATA REQUIRED IN CELL D22
				DATA REQUIRED IN CELL D23
				DATA REQUIRED IN CELL D24

				DATA REQUIRED IN CELL D25
				DATA REQUIRED IN CELL D26
				DATA REQUIRED IN CELL D27
				DATA REQUIRED IN CELL D28
				DATA REQUIRED IN CELL D29
				DATA REQUIRED IN CELL D30
				DATA REQUIRED IN CELL D31
				DATA REQUIRED IN CELL D32
				DATA REQUIRED IN CELL D33
				DATA REQUIRED IN CELL D34
				DATA REQUIRED IN CELL D35
				DATA REQUIRED IN CELL D36
				DATA REQUIRED IN CELL D37





**Spreadsheet Example VCSB 10 ppm Sulfur in Butane Precision Demonstration [PBM**

<b>Test Method</b>	
Name of Method:	Total Sulfur in Liquid Aromatic Hydrocarbon

<b>Laboratory Identification</b>	
Laboratory Name:	USEPA National and Vehicle Fuels Emission
Laboratory Street Address:	2565 Plymouth Road, Mailcode AATSG
Laboratory City:	Ann Arbor
Laboratory State:	Michigan
Laboratory Zip code:	48105
Laboratory Contact Person:	John Doe
Laboratory Contact Phone Number:	xxx-xxx-xxxx
Laboratory Contact Facsimile Number:	xxx-xxx-xxxx
Laboratory Contact E-mail Address:	<a href="mailto:FuelsProgramSupport@epa.gov">FuelsProgramSupport@epa.gov</a>

**10 ppm Sulfur Precision Criterion** - The maximum allowable standard deviation compute week and 2 or fewer tests per day) on samples using good laboratory practices taken from to 1.5 times the repeatability (r) divided by 2.77, where "r" equals the ASTM repeatability of sample: maximum allowable standard deviation of 20 tests less than or equal  $1.5 \times (1.15 \text{ ppm hour period})$ , as long as the interval between measurements is at least 4 hours.

Is 10 ppm Sulfur Precision Criterion Met?	<b>PASSED</b>		
standard deviation	0.04		
Laboratory Test Identification Number	Date	Time	Test Result (ppm)
#####	3/26/2021	8:00 AM	6.003
#####	3/29/2021	8:05 AM	6.021
#####	3/30/2021	8:03 AM	6.043
#####	3/31/2021	8:05 AM	5.993
#####	4/1/2021	8:05 AM	6.003
#####	4/2/2021	8:03 AM	6.092
#####	4/3/2021	8:03 AM	6.101
#####	4/4/2021	8:03 AM	6.045
#####	4/5/2021	8:00 AM	6.003
#####	4/8/2021	8:00 AM	6.021
#####	4/9/2021	8:02 AM	5.989
#####	4/10/2021	8:00 AM	5.962
#####	4/11/2021	8:00 AM	6.010
#####	4/12/2021	8:00 AM	6.032
#####	4/15/2021	8:15 AM	6.053
#####	4/16/2021	8:00 AM	6.050
#####	4/17/2021	8:07 AM	5.989
#####	4/18/2021	8:00 AM	6.033
#####	4/19/2021	8:00 AM	5.939
#####	4/22/2021	8:20 AM	6.042



**Spreadsheet Example VCSB 10 ppm Sulfur in Butane Accuracy Demonstration**

<b>Test Method</b>	
Name of Method:	XRF
<b>Laboratory Identification</b>	
Laboratory Name:	USEPA National and Vehicle Fuels I
Laboratory Street Address:	2565 Plymouth Road, Mailcode AAT
Laboratory City:	Ann Arbor
Laboratory State:	Michigan
Laboratory Zip code:	48105
Laboratory Contact Person:	John Doe
Laboratory Contact Phone Number	xxx-xxx-xxxx
Laboratory Contact Facsimile Number	xxx-xxx-xxxx
Laboratory Contact E-mail Address	FuelsProgramSupport@epa.gov

**1 to 10 ppm Accuracy Criterion** - the arithmetic average of a continuous series of commercially available gravimetric sulfur standard in the range of 1 to 10 ppm sulfur the accepted reference value (ARV) of that standard by more than 0.4678725 ppm. compensated for any known chemical interferences.

<b>Accuracy Criterion for 1-10 ppm</b>			
<b>gravimetric sulfur standard</b>			
Is 1-10 ppm Sulfur Accuracy Criterion Met?	<b>PASSED</b>		
Arithmetic Average (ppm)	7.95		
Vendor Name of Gravimetric Standard	NIST		
Lot Identification Number of Gravimetric Standard	ALDS45680		
Accepted Reference Value (ARV) of Gravimetric Standard (ppm)	8.00		
Difference between Arithmetic Average and ARV of Gravimetric Standard	0.0515		
Laboratory Test Identification Number	Date	Time	Test Result (ppm)
#####	4/23/2021	8:00 AM	7.341
#####	4/23/2021	8:05 AM	7.562
#####	4/23/2021	8:10 AM	7.894
#####	4/23/2021	8:15 AM	8.219
#####	4/23/2021	8:20 AM	8.234
#####	4/23/2021	8:25 AM	8.100
#####	4/23/2021	8:30 AM	8.114
#####	4/23/2021	8:35 AM	7.989
#####	4/23/2021	8:40 AM	7.687
#####	4/23/2021	8:45am	8.345

