

Proficiency testing for in-house and external measuring stations - results and evaluation

Proficiency testing (PT) scheme

Organic Solvents 2026, with and without own sampling

February - March 2026

Substances / Measurand per Sample:

The PT scheme consisted of three runs with different substances and different concentrations in the test gas. The test gas contained up to ten different organic solvents.

Substance	CAS No.	Product No.	Manufacturer	Sample
1-Butanol	71-36-3	20808.291	VWR	1+2
2-Butanol	78-92-2	20812.295	VWR	
iso-Butanol (2-Methyl-1-propanol)	78-83-1	20833.297	VWR	
1-Methoxy-2-propanol	107-98-2	484407-1L	Sigma-Aldrich	
1-Propanol	71-23-8	043848.AP	Thermo scientific	
2-Propanol (Isopropanol)	67-63-0	8.18766.1000	Merck	
n-Butyl acetate	123-86-4	1.09652.1000	Merck	3
Cumene	98-82-8	A0478676	Thermo scientific	
Ethylbenzene	100-41-4	8.01372.1000	Thermo scientific	
Methylcyclohexane	108-87-2	8.06147.1000	Merck	
n-Octane	111-65-9	8069100250	Sigma-Aldrich	
Toluene	108-88-3	1083251000	Merck	
1,2,4-Trimethylbenzene	95-63-6	8.14505.0500	Sigma-Aldrich	
o-Xylene	95-47-6	AB 120051	Alfa Aesar	

Choice of sample carriers:

1.) For the PT scheme without own sampling, samples were loaded from the IFA-Team:

- Activated charcoal tubes Type BIA (Prod. No. 64 00744) manufactured by Dräger
- Activated charcoal tubes Type NIOSH (Prod. No. 64 00742) manufactured by Dräger

The samples with activated charcoal tubes Type BIA were loaded with a standard sample air volume of 40 L, the samples with activated charcoal tubes Type NIOSH were loaded with a standard sample air volume of 4 L.

2.) Participants of the PT scheme with own sampling had loaded their own sample carriers by using their own equipment.

Evaluation of the PT scheme:

As both PT schemes "Organic Solvents 2026, with and without own sampling" took place in parallel, they were evaluated together.

The PT scheme was evaluated according to DIN ISO 5725-2 using the software PROLab Plus.

The z-score of all participating laboratories is calculated with the aid of the outlier-free mean value and the outlier-free standard deviation. A permissible deviation (s) of 10% was set.

The "reference values" given are the mean value from six quality control samples taken at the test gas stream in parallel to the sampling. For the quality control samples, activated charcoal tubes Type BIA were loaded and analysed in accordance with the relevant IFA Folders.

The evaluation report contains the following information:

- tabular and graphical presentation of the entire analysis results and the outliers
- tabular and graphical presentation of the z-score analysis
- list of the analysis methods employed by the participants*

The **certificate of attendance** will be uploaded as a separate file.

**Please note: we may have adjusted your answers in the report so that laboratory numbers cannot be assigned to the participants.*

Organic Solvents 2026

Summary of laboratory test results

Sample 1

Sample 1

	1-Butanol	Z score	2-Butanol	Z score	iso-Butanol	Z score	1-Methoxy-2-Propanol	Z score
Unit	mg/m³		mg/m³		mg/m³		mg/m³	
26	45.23	2.8 E	92.97	1.1	42.21	-1.9	53.77	2.3 E
33	42.00	1.8	88.80	0.6	63.90	2.3 E	47.50	0.9
40	35.60	0.0	86.90	0.4	51.90	0.0		
66	32.11	-0.9	83.09	-0.1	47.80	-0.8	41.42	-0.5
68	39.95	1.3	79.01	-0.6	48.48	-0.7	16.25	-6.3 FE
72	36.22	0.2	86.37	0.3	53.57	0.3	44.69	0.2
82	17.54	-5.1 FE	47.98	-4.3 FE	29.22	-4.4 FE	10.67	-7.6 FE
118	30.38	-1.4	72.66	-1.3	43.53	-1.6		
136	28.32	-2.0 E	99.28	1.9	58.92	1.3	55.74	2.8 E
143	28.30	-2.0 E	70.40	-1.6	46.50	-1.1	57.00	3.1 FE
146	38.90	1.0	87.00	0.4	55.50	0.7	40.30	-0.8
158	37.20	0.5	88.00	0.5	53.60	0.3	46.70	0.7
159								
167	31.00	-1.3	74.00	-1.2	45.00	-1.3	32.00	-2.7 E
188	34.48	-0.3	86.07	0.3	51.72	0.0	42.08	-0.4
199	40.70	1.5	138.00	6.5 BE	61.00	1.7	33.30	-2.4 E
236	35.60	0.0	87.90	0.5	56.60	0.9	46.50	0.7
238	28.20	-2.0 E	75.20	-1.0	43.80	-1.6	45.90	0.5
245	33.00	-0.7	82.70	-0.1	49.20	-0.5	42.10	-0.4
252								
256	41.05	1.6	48.06	-4.3 FE	50.39	-0.3	44.45	0.2
263	45.20	2.7 E	88.70	0.6	68.00	3.1 E	41.60	-0.5
272	35.70	0.1	90.20	0.8	57.70	1.1	39.90	-0.9

Organic Solvents 2026

Summary of laboratory test results

Sample 1

Sample 1

	1-Butanol	Z score	2-Butanol	Z score	iso-Butanol	Z score	1-Methoxy-2-Propanol	Z score
294	26.05	-2.7 E	71.94	-1.4	42.17	-1.9	44.08	0.1
301	34.78	-0.2						
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Statistical method	ISO 5725-2		ISO 5725-2		ISO 5725-2		ISO 5725-2	
Assessment	Z <=2.0		Z <=2.0		Z <=2.0		Z <=2.0	
No. of laboratories that submitted results	23		22		22		20	
Mean	35.45		83.75		51.98		43.65	
Reproducibility s.d.	5.50		7.88		7.24		5.97	
Rel. reproducibility s.d.	15.5 %		9.4 %		13.9 %		13.7 %	
SDPA	3.55		8.37		5.20		4.36	
Rel. SDPA	10.0 %		10.0 %		10.0 %		10.0 %	
Reference value	40.90		98.00		58.80		48.70	
Lower limit of tolerance	28.36		67.00		41.58		34.92	
Upper limit of tolerance	42.54		100.50		62.37		52.38	
Type B outliers			1					
No. of measurement values outside of tolerance limits	7		3		3		7	
Type F outliers	1		2		1		3	
No. of laboratories after elimination of outliers type A-D and F (without laboratories that only gave states but no measured values)	22		19		21		17	
Explanation of outlier types								
A: Single outlier	Grubbs							
B: Differing laboratory mean	Grubbs							
C: Excessive laboratory s.d.	Cochran							

Organic Solvents 2026

Summary of laboratory test results

Sample 1

Sample 1

	1-Butanol	Z score	2-Butanol	Z score	iso-Butanol	Z score	1-Methoxy-2-Propanol	Z score
D: Excluded manually								
E: mean outside tolerance limits								
F: Z-Score >3.5								
	1-Propanol	Z score	2-Propanol	Z score				
Unit	mg/m³		mg/m³					
26	135.18	0.8	61.81	0.8				
33	154.00	2.3 E	71.00	2.4 E				
40	149.00	1.9	61.90	0.8				
66	125.98	0.1	57.11	-0.1				
68	102.67	-1.8	33.70	-4.1 FE				
72	126.07	0.1	59.87	0.4				
82			22.38	-6.1 FE				
118	107.88	-1.4	50.51	-1.2				
136	141.10	1.3	76.92	3.4 FE				
143	122.00	-0.2	58.20	0.1				
146	116.00	-0.7	54.90	-0.4				
158	126.40	0.1	53.80	-0.6				
159			39.20	-3.2 E				
167	102.00	-1.8	51.00	-1.1				
188	120.94	-0.3	58.04	0.1				
199	103.00	-1.8	67.00	1.7				
238	103.70	-1.7	46.20	-2.0				
245	121.50	-0.3	57.40	0.0				
252			59.20	0.3				

Organic Solvents 2026

Summary of laboratory test results

Sample 1

Sample 1

	1-Propanol	Z score	2-Propanol	Z score
256	165.47	3.2 E	66.80	1.6
263	144.00	1.5	66.50	1.6
272	122.00	-0.2	57.00	-0.1
294	109.16	-1.3	50.85	-1.1
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Statistical method	ISO 5725-2		ISO 5725-2	
Assessment	Z <=2.0		Z <=2.0	
No. of laboratories that submitted results	20		23	
Mean	124.90		57.41	
Reproducibility s.d.	18.38		7.63	
Rel. reproducibility s.d.	14.7 %		13.3 %	
SDPA	12.49		5.74	
Rel. SDPA	10.0 %		10.0 %	
Reference value	141.90		65.60	
Lower limit of tolerance	99.92		45.93	
Upper limit of tolerance	149.88		68.90	
No. of measurement values outside of tolerance limits	2		5	
Type F outliers			3	
No. of laboratories after elimination of outliers type A-D and F (without laboratories that only gave states but no measured values)	20		20	

Organic Solvents 2026

Summary of laboratory test results

Sample 2

Sample 2

	1-Butanol	Z score	2-Butanol	Z score	iso-Butanol	Z score	1-Methoxy-2-Propanol	Z score
Unit	mg/m³		mg/m³		mg/m³		mg/m³	
26	101.03	3.8 FE	77.12	1.1	153.21	1.1	89.46	-0.4
33	97.70	3.3 E	81.10	1.7	194.30	4.1 BE	112.10	2.0
40	73.10	0.0	70.50	0.2	138.00	0.0		
66	67.57	-0.8	64.31	-0.7	126.13	-0.8	89.59	-0.4
68	60.91	-1.7	71.24	0.3	114.75	-1.7	41.67	-5.5 BE
72	75.35	0.3	71.18	0.3	143.32	0.4	96.29	0.3
82	58.82	-2.0	58.01	-1.6	114.40	-1.7	63.94	-3.2 E
118	68.91	-0.6	60.54	-1.3	122.06	-1.1		
136	52.44	-2.8 E	75.61	0.9	144.90	0.5	113.93	2.2 E
143	78.90	0.8	74.50	0.7	165.00	2.0	210.00	12.5 BE
146	74.00	0.1	73.10	0.5	136.00	-0.1	92.00	-0.2
158	71.10	-0.3	66.80	-0.4	133.70	-0.3	94.00	0.1
159								
167	69.00	-0.6	64.00	-0.8	131.00	-0.5	79.00	-1.6
188	75.95	0.4	73.51	0.6	144.32	0.5	97.67	0.4
199	87.00	1.9	112.00	6.1 BE	175.00	2.7 E	74.40	-2.0 E
236	75.50	0.3	72.40	0.4	156.50	1.4	97.00	0.4
238	61.50	-1.6	60.70	-1.3	120.90	-1.2	97.90	0.5
245	70.30	-0.4	67.80	-0.2	133.00	-0.3	92.90	-0.1
252								
256	90.75	2.4 E	36.06	-4.8 BE	136.21	-0.1	115.39	2.3 E
263	85.50	1.7	71.00	0.2	136.00	-0.1	91.50	-0.2
272	72.20	-0.1	70.60	0.2	139.00	0.1	92.50	-0.1

Organic Solvents 2026

Summary of laboratory test results

Sample 2

Sample 2

	1-Butanol	Z score	2-Butanol	Z score	iso-Butanol	Z score	1-Methoxy-2-Propanol	Z score
294	71.24	-0.3	63.61	-0.8	124.68	-0.9	93.43	0.0
301								
–	–	--	–	--	–	--	–	--
Statistical method	ISO 5725-2		ISO 5725-2		ISO 5725-2		ISO 5725-2	
Assessment	Z <=2.0		Z <=2.0		Z <=2.0		Z <=2.0	
No. of laboratories that submitted results	22		22		22		20	
Mean	73.23		69.38		137.53		93.50	
Reproducibility s.d.	10.75		6.04		15.57		12.80	
Rel. reproducibility s.d.	14.7 %		8.7 %		11.3 %		13.7 %	
SDPA	7.32		6.94		13.75		9.35	
Rel. SDPA	10.0 %		10.0 %		10.0 %		10.0 %	
Reference value	85.40		79.50		154.70		104.40	
Lower limit of tolerance	58.58		55.51		110.02		74.80	
Upper limit of tolerance	87.87		83.26		165.03		112.20	
Type B outliers			2		1		2	
No. of measurement values outside of tolerance limits	4		2		2		6	
Type F outliers	1							
No. of laboratories after elimination of outliers type A-D and F (without laboratories that only gave states but no measured values)	21		20		21		18	
Explanation of outlier types								
A: Single outlier	Grubbs							
B: Differing laboratory mean	Grubbs							
C: Excessive laboratory s.d.	Cochran							

Organic Solvents 2026

Summary of laboratory test results

Sample 2

Sample 2

	1-Butanol	Z score	2-Butanol	Z score	iso-Butanol	Z score	1-Methoxy-2-Propanol	Z score
D: Excluded manually								
E: mean outside tolerance limits								
F: Z-Score >3.5								
	1-Propanol	Z score	2-Propanol	Z score				
Unit	mg/m³		mg/m³					
26	72.24	0.8	43.19	1.3				
33	91.40	3.7 E	52.50	3.8 FE				
40	77.90	1.6	42.10	1.0				
66	59.31	-1.1	37.29	-0.2				
68	71.32	0.7	29.95	-2.1 E				
72	65.93	-0.2	40.91	0.7				
82			25.50	-3.3 E				
118	56.72	-1.5	34.60	-0.9				
136	70.33	0.5	49.81	3.1 E				
143	77.20	1.5	47.70	2.5 E				
146	77.20	1.5	45.90	2.0 E				
158	64.50	-0.4	37.10	-0.3				
159			25.60	-3.3 E				
167	56.00	-1.6	38.00	0.0				
188	65.30	-0.2	41.05	0.8				
199	48.50	-2.8 E	45.30	1.9				
238	54.40	-1.9	30.00	-2.1 E				
245	62.70	-0.6	38.90	0.2				
252			40.40	0.6				

Organic Solvents 2026

Summary of laboratory test results

Sample 2

Sample 2

	1-Propanol	Z score	2-Propanol	Z score
256	76.10	1.4	41.15	0.8
263	102.00	5.2 FE	29.20	-2.3 E
272	62.60	-0.6	38.80	0.2
294	62.34	-0.7	38.17	0.0
301			36.03	-0.5
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Statistical method	ISO 5725-2		ISO 5725-2	
Assessment	Z <=2.0		Z <=2.0	
No. of laboratories that submitted results	20		24	
Mean	66.95		38.11	
Reproducibility s.d.	10.32		6.61	
Rel. reproducibility s.d.	15.4 %		17.3 %	
SDPA	6.69		3.81	
Rel. SDPA	10.0 %		10.0 %	
Reference value	72.30		43.80	
Lower limit of tolerance	53.56		30.49	
Upper limit of tolerance	80.34		45.74	
No. of measurement values outside of tolerance limits	3		9	
Type F outliers	1		1	
No. of laboratories after elimination of outliers type A-D and F (without laboratories that only gave states but no measured values)	19		23	

Organic Solvents 2026

Summary of laboratory test results

Sample 3

Sample 3

	n-Butyl acetate	Z score	Cumene	Z score	Ethylbenzene	Z score	Methylcyclohexane	Z score
Unit	mg/m³		mg/m³		mg/m³		mg/m³	
26	62.50	0.7	111.25	-0.4	51.50	-0.2	71.10	-0.8
33	59.20	0.1	121.60	0.5	56.50	0.8	82.30	0.7
40	52.40	-1.1	97.50	-1.6	43.31	-1.7	71.70	-0.7
55	53.50	-0.9	97.10	-1.6	45.50	-1.3		
66	54.07	-0.8	116.05	0.0	46.17	-1.2	66.67	-1.4
68	67.50	1.5	151.58	3.1 E	65.58	2.5 E	89.08	1.6
72	57.88	-0.1	114.83	-0.1	54.57	0.4	68.30	-1.1
82	55.81	-0.5	113.10	-0.2	51.67	-0.2	72.95	-0.5
118			98.24	-1.5	45.56	-1.3	63.94	-1.7
136	64.04	0.9	120.98	0.5	54.36	0.4	90.60	1.8
143	100.00	7.1 BE	97.20	-1.6	41.90	-2.0 E	100.00	3.0 E
146	57.90	-0.1	113.30	-0.2	51.40	-0.2	74.10	-0.4
158	56.90	-0.3	105.30	-0.9	48.00	-0.9	79.10	0.3
159					29.30	-4.4 BE		
162			135.33	1.7	59.82	1.4	88.03	1.4
167	77.00	3.1 BE	109.00	-0.6	52.00	-0.1	73.00	-0.5
188	59.42	0.1	114.26	-0.1	52.54	0.0	74.34	-0.4
199	60.20	0.3	136.00	1.8	49.50	-0.6		
236	62.60	0.7	124.70	0.8	52.70	0.0		
238	81.70	3.9 BE	129.20	1.2	55.50	0.6	88.50	1.5
239			191.10	6.5 BE	66.60	2.7 E		
245	61.00	0.4	112.60	-0.3	50.70	-0.3	72.00	-0.7
252								

Organic Solvents 2026

Summary of laboratory test results

Sample 3

Sample 3

	n-Butyl acetate	Z score	Cumene	Z score	Ethylbenzene	Z score	Methylcyclohexane	Z score
256	60.19	0.3	121.08	0.5	55.88	0.6	69.08	-1.0
263	49.90	-1.5	104.00	-1.0	47.70	-0.9	70.70	-0.8
272	58.90	0.1	114.00	-0.1	52.20	-0.1	74.00	-0.4
294	61.22	0.4	63.72	-4.5 BE	61.22	1.7	86.21	1.2
300			282.96	14.5 BE	98.99	8.9 BE		
301	56.50	-0.4			51.84	-0.1		
309	59.00	0.1					70.00	-0.9
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Statistical method	ISO 5725-2		ISO 5725-2		ISO 5725-2		ISO 5725-2	
Assessment	Z <=2.0		Z <=2.0		Z <=2.0		Z <=2.0	
No. of laboratories that submitted results	24		26		28		22	
Mean	58.60		115.57		52.47		77.08	
Reproducibility s.d.	4.10		13.65		6.12		9.46	
Rel. reproducibility s.d.	7.0 %		11.8 %		11.7 %		12.3 %	
SDPA	5.86		11.56		5.25		7.71	
Rel. SDPA	10.0 %		10.0 %		10.0 %		10.0 %	
Reference value	64.40		118.00		54.00		78.40	
Lower limit of tolerance	46.88		92.46		41.98		61.66	
Upper limit of tolerance	70.32		138.69		62.96		92.49	
Type B outliers	3		3		2			
No. of measurement values outside of tolerance limits	3		4		5		1	
Type F outliers								
No. of laboratories after elimination of outliers type A-D and F (without laboratories that only gave states but no measured values)	21		23		26		22	

Organic Solvents 2026

Summary of laboratory test results

Sample 3

Sample 3

	n-Butyl acetate	Z score	Cumene	Z score	Ethylbenzene	Z score	Methylcyclohexane	Z score
Explanation of outlier types								
A: Single outlier	Grubbs							
B: Differing laboratory mean	Grubbs							
C: Excessive laboratory s.d.	Cochran							
D: Excluded manually								
E: mean outside tolerance limits								
F: Z-Score >3.5								
	n-Octane	Z score	Toluene	Z score	1,2,4-Trimethylbenzene	Z score	o-Xylene	Z score
Unit	mg/m³		mg/m³		mg/m³		mg/m³	
26	85.72	0.9	54.25	-0.5	51.00	-1.1	91.00	-0.4
33	75.70	-0.4	62.70	0.9	18.70	-6.7 BE	98.40	0.4
40	72.70	-0.8	53.30	-0.7	50.40	-1.2	80.20	-1.5
55	66.70	-1.5	54.50	-0.5	42.70	-2.5 E	85.90	-0.9
66	71.61	-0.9	51.85	-1.0	52.35	-0.8	86.91	-0.8
68	96.83	2.3 E	68.58	2.0	80.33	4.1 FE	116.08	2.3 E
72	72.34	-0.8	56.07	-0.2	59.60	0.4	95.22	0.1
82	79.08	0.0	56.34	-0.2	59.69	0.5	92.58	-0.2
118	67.47	-1.4	49.95	-1.3	54.35	-0.5	84.86	-1.0
136	95.10	2.1 E	61.03	0.6	66.76	1.7	105.72	1.2
143	120.00	5.2 BE	44.70	-2.2 E	41.60	-2.7 E	68.00	-2.8 E
146	77.90	-0.1	56.00	-0.2	62.20	0.9	95.40	0.1
158	69.10	-1.2	53.20	-0.7	59.30	0.4	88.40	-0.6
159			35.60	-3.8 BE			54.60	-4.2 FE

Organic Solvents 2026

Summary of laboratory test results

Sample 3

Sample 3

	n-Octane	Z score	Toluene	Z score	1,2,4-Trimethylbenzene	Z score	o-Xylene	Z score
162	64.57	-1.8	64.58	1.3	71.28	2.5 E	110.04	1.7
167	76.00	-0.4	57.00	-0.1	63.00	1.0	97.00	0.3
188	78.55	0.0	56.87	-0.1	63.25	1.1	96.28	0.2
199	88.40	1.2			51.50	-1.0	94.70	0.0
236	81.20	0.3	57.80	0.1	61.60	0.8	100.50	0.7
238	94.30	2.0	59.20	0.3	67.60	1.8	108.60	1.5
239			71.90	2.5 E	100.00	7.5 BE	130.70	3.9 FE
245	76.50	-0.3	55.70	-0.3	61.30	0.7	94.60	0.0
252			54.50	-0.5				
256	82.45	0.5	55.81	-0.3	49.23	-1.4	92.39	-0.2
263	75.10	-0.5	52.90	-0.8	59.80	0.5	90.90	-0.4
272	78.40	0.0	56.70	-0.1	62.90	1.0	96.10	0.2
294	86.21	0.9	72.46	2.6 E	41.23	-2.8 E	143.67	5.2 FE
300			57.96	0.1			184.08	9.5 BE
301			54.41	-0.5	59.85	0.5	92.83	-0.2
309			55.00	-0.4			96.00	0.2
–	–	--	–	--	–	--	–	--
Statistical method	ISO 5725-2		ISO 5725-2		ISO 5725-2		ISO 5725-2	
Assessment	Z <=2.0		Z <=2.0		Z <=2.0		Z <=2.0	
No. of laboratories that submitted results	24		29		26		29	
Mean	78.78		57.33		57.06		94.34	
Reproducibility s.d.	9.01		6.13		8.29		9.80	
Rel. reproducibility s.d.	11.4 %		10.7 %		14.5 %		10.4 %	
SDPA	7.88		5.73		5.71		9.43	
Rel. SDPA	10.0 %		10.0 %		10.0 %		10.0 %	
Reference value	80.20		60.50		65.60		106.90	

Organic Solvents 2026

Summary of laboratory test results

Sample 3

Sample 3

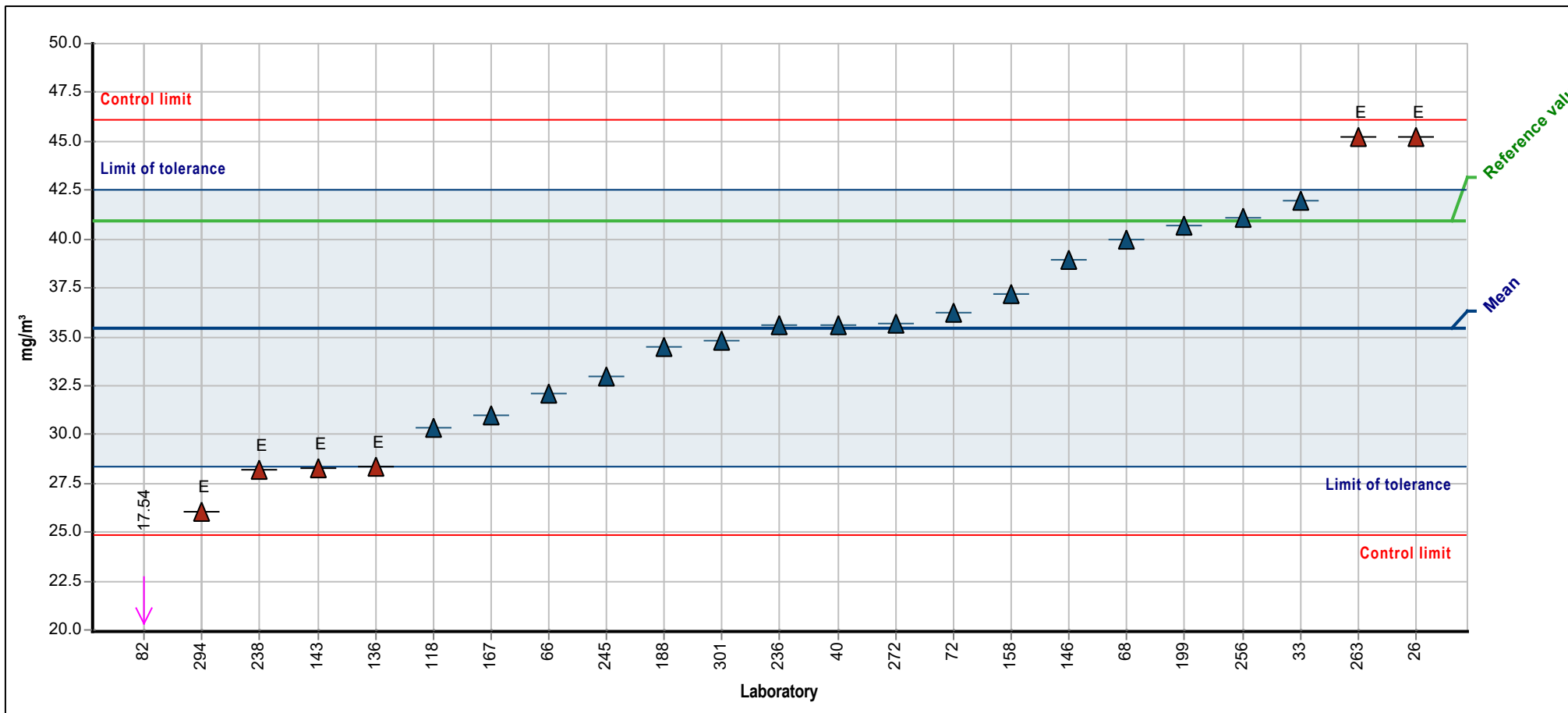
	n-Octane	Z score	Toluene	Z score	1,2,4-Trimethylbenzene	Z score	o-Xylene	Z score
Lower limit of tolerance	63.02		45.86		45.65		75.48	
Upper limit of tolerance	94.54		68.80		68.48		113.21	
Type B outliers	1		1		2		1	
No. of measurement values outside of tolerance limits	3		4		7		6	
Type F outliers					1		3	
No. of laboratories after elimination of outliers type A-D and F (without laboratories that only gave states but no measured values)	23		28		23		25	

Organic Solvents 2026

Summary results

Sample: 1
 Measurand: 1-Butanol
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 23

Mean: 35.45 mg/m³
 Reproducibility s.d.: 5.50 mg/m³
 Rel. reproducibility s.d.: 15.5%
 Reference value: 40.90 mg/m³
 Range of tolerance: 28.36 - 42.54 mg/m³ ($|Z\text{-Score}| \leq 2.0$)
 Control limits: 24.82 and 46.09 mg/m³ ($|Z\text{-Score}| = 3.0$)

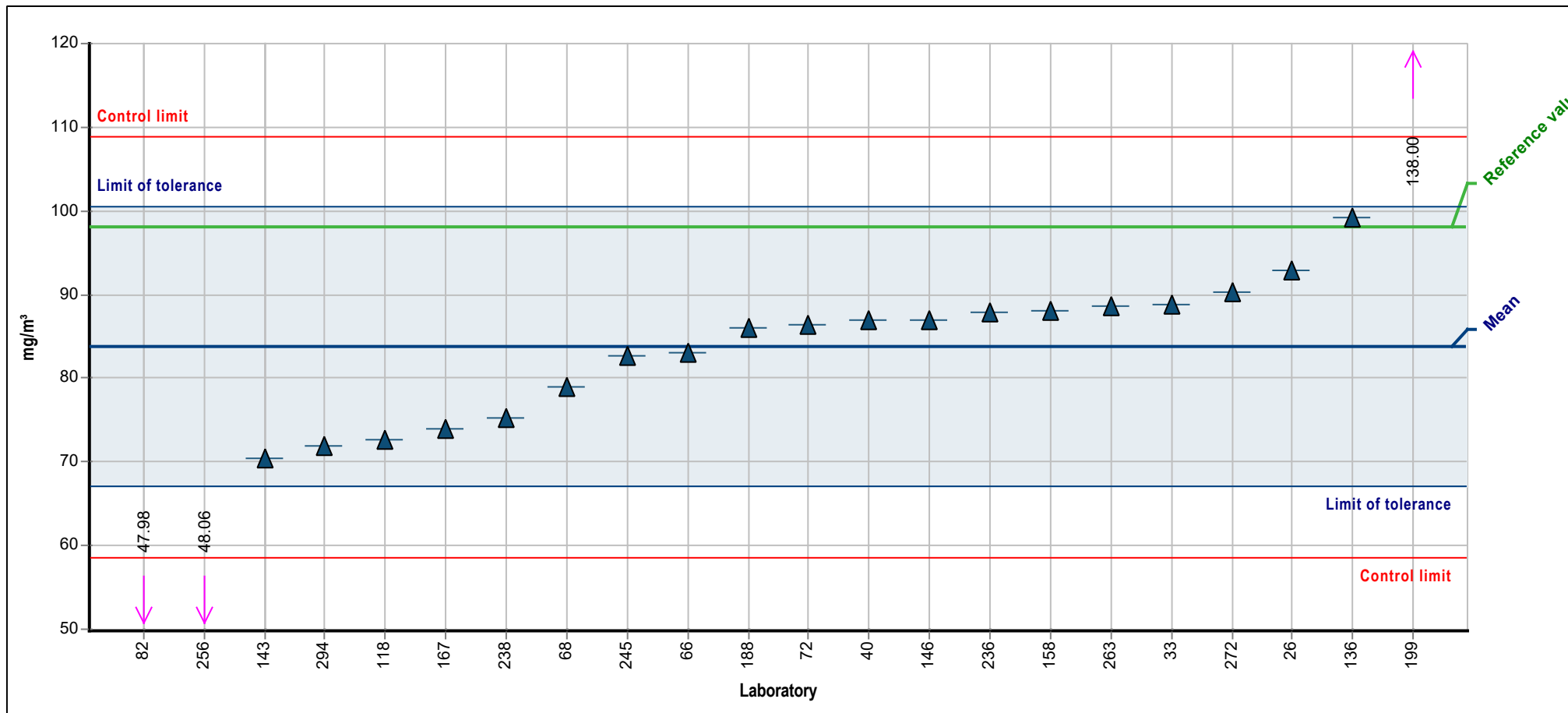


Organic Solvents 2026

Summary results

Sample: 1
 Measurand: 2-Butanol
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 22

Mean: 83.75 mg/m³
 Reproducibility s.d.: 7.88 mg/m³
 Rel. reproducibility s.d.: 9.4%
 Reference value: 98.00 mg/m³
 Range of tolerance: 67.00 - 100.50 mg/m³ ($|Z\text{-Score}| \leq 2.0$)
 Control limits: 58.62 and 108.87 mg/m³ ($|Z\text{-Score}| = 3.0$)

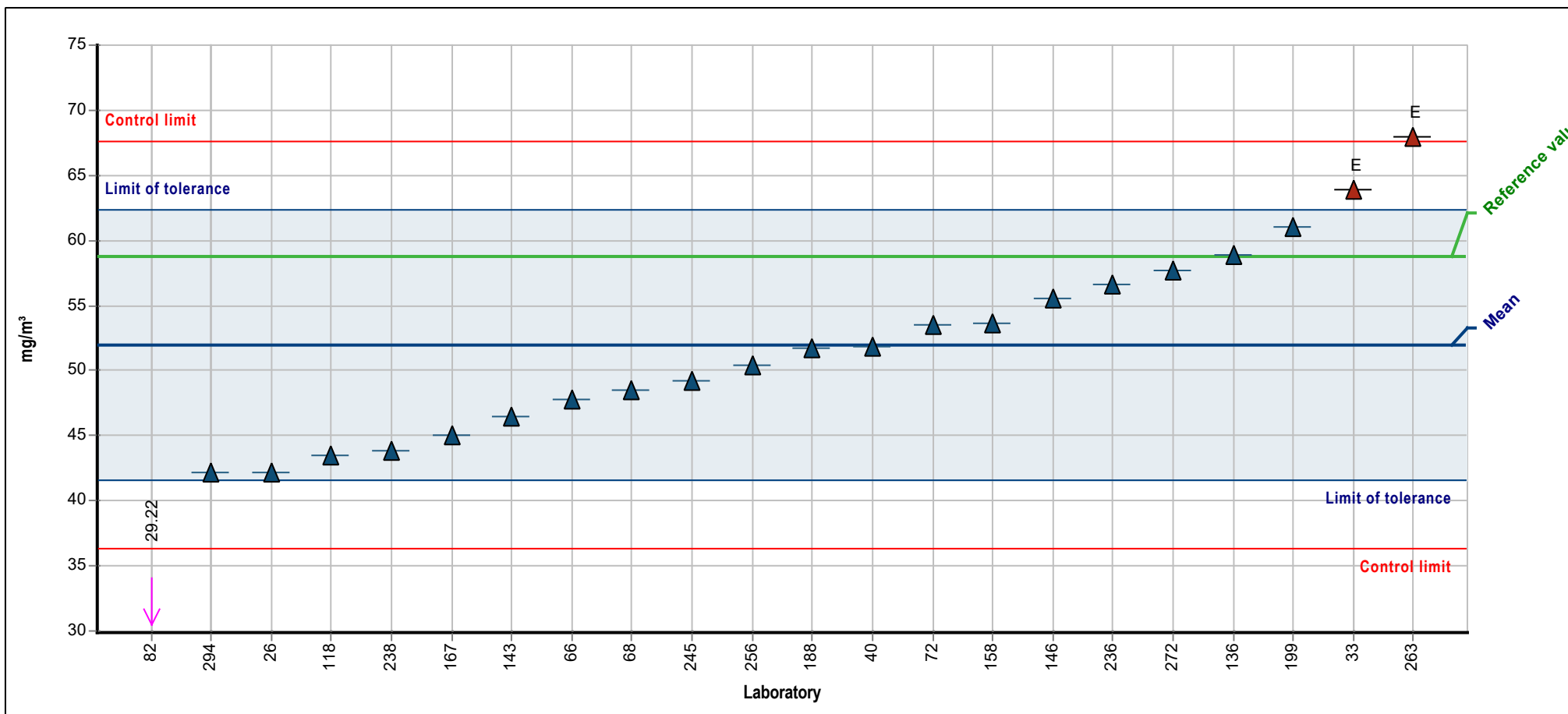


Organic Solvents 2026

Summary results

Sample: 1
 Measurand: iso-Butanol
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 22

Mean: 51.98 mg/m³
 Reproducibility s.d.: 7.24 mg/m³
 Rel. reproducibility s.d.: 13.9%
 Reference value: 58.80 mg/m³
 Range of tolerance: 41.58 - 62.37 mg/m³ ($|Z\text{-Score}| \leq 2.0$)
 Control limits: 36.38 and 67.57 mg/m³ ($|Z\text{-Score}| = 3.0$)

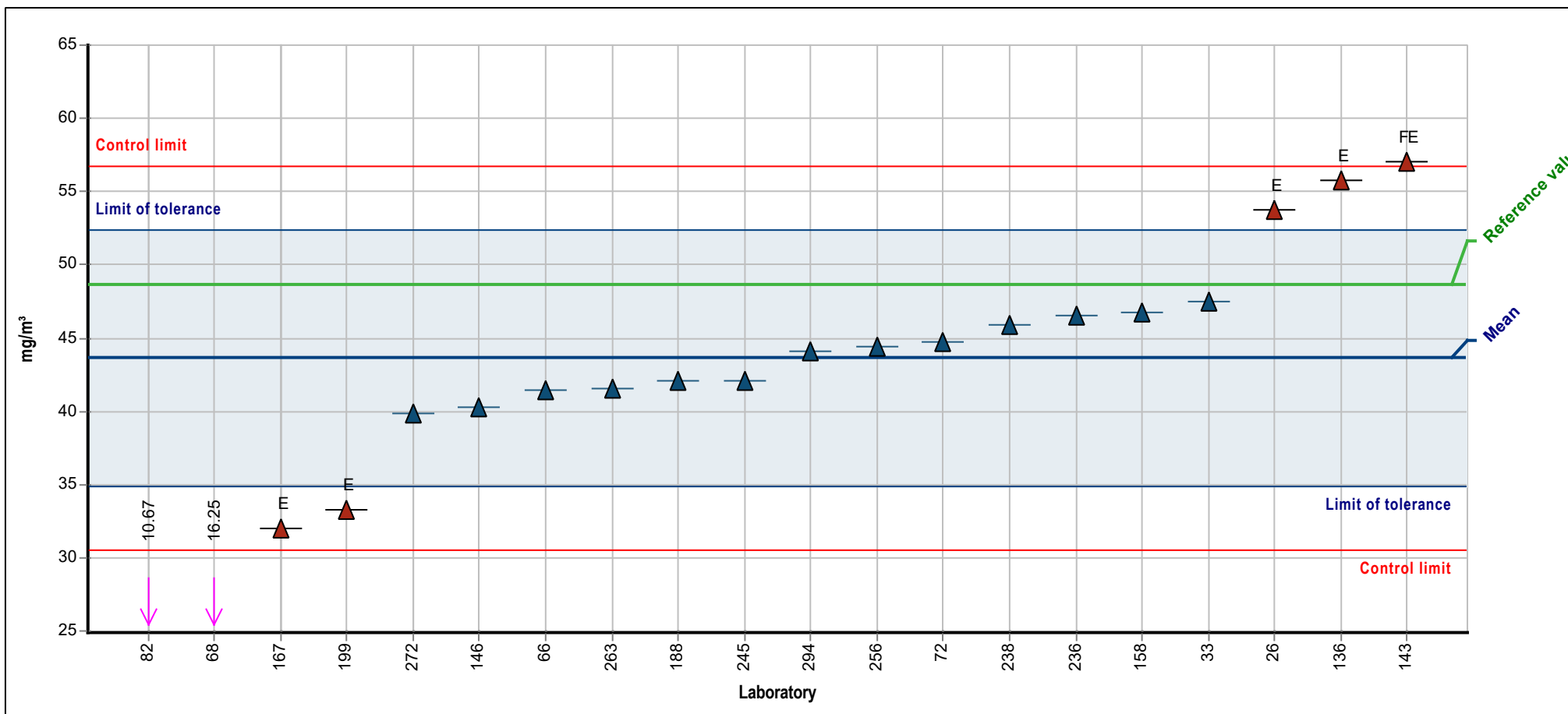


Organic Solvents 2026

Summary results

Sample: 1
 Measurand: 1-Methoxy-2-Propanol
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 20

Mean: 43.65 mg/m³
 Reproducibility s.d.: 5.97 mg/m³
 Rel. reproducibility s.d.: 13.7%
 Reference value: 48.70 mg/m³
 Range of tolerance: 34.92 - 52.38 mg/m³ (|Z-Score| ≤ 2.0)
 Control limits: 30.55 and 56.74 mg/m³ (|Z-Score| = 3.0)

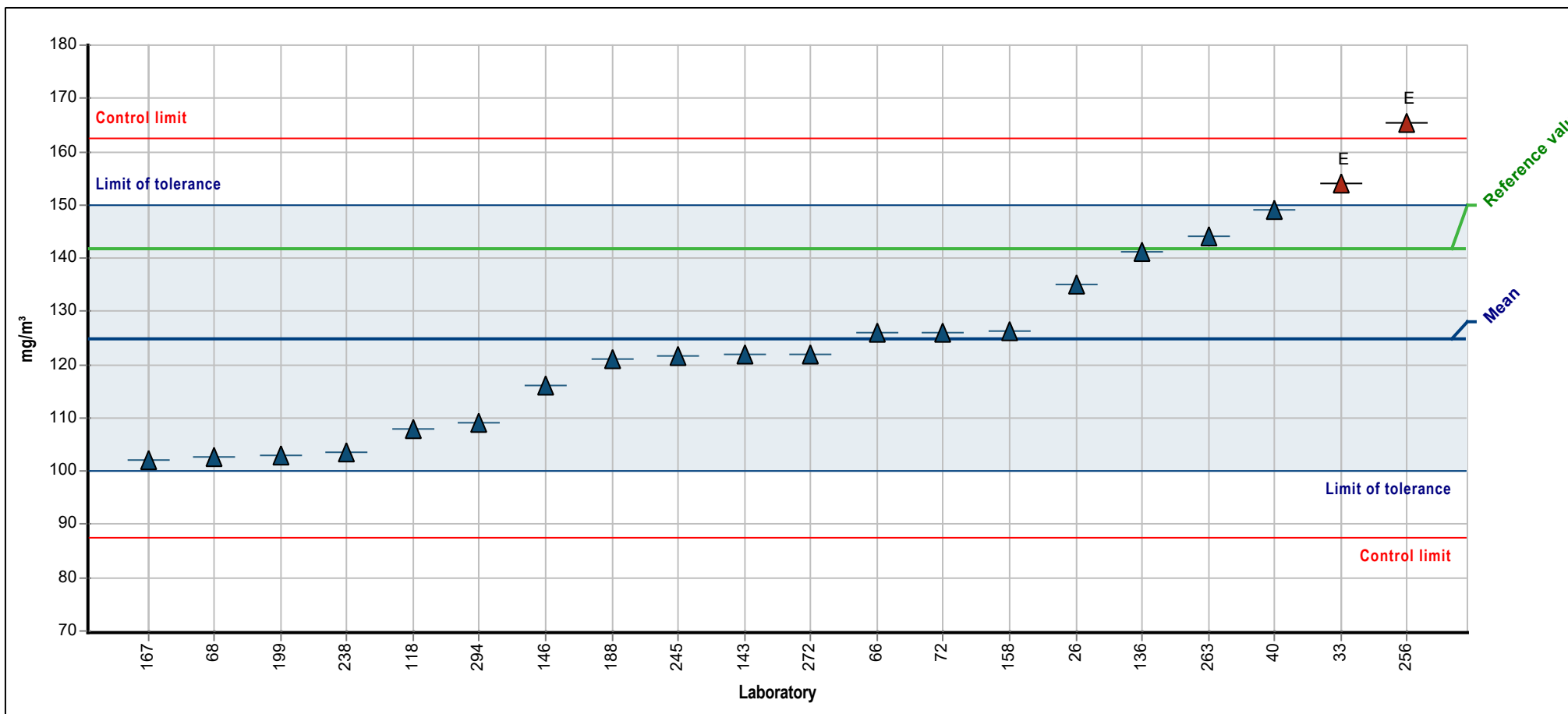


Organic Solvents 2026

Summary results

Sample: 1
 Measurand: 1-Propanol
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 20

Mean: 124.90 mg/m³
 Reproducibility s.d.: 18.38 mg/m³
 Rel. reproducibility s.d.: 14.7%
 Reference value: 141.90 mg/m³
 Range of tolerance: 99.92 - 149.88 mg/m³ ($|Z\text{-Score}| \leq 2.0$)
 Control limits: 87.43 and 162.37 mg/m³ ($|Z\text{-Score}| = 3.0$)

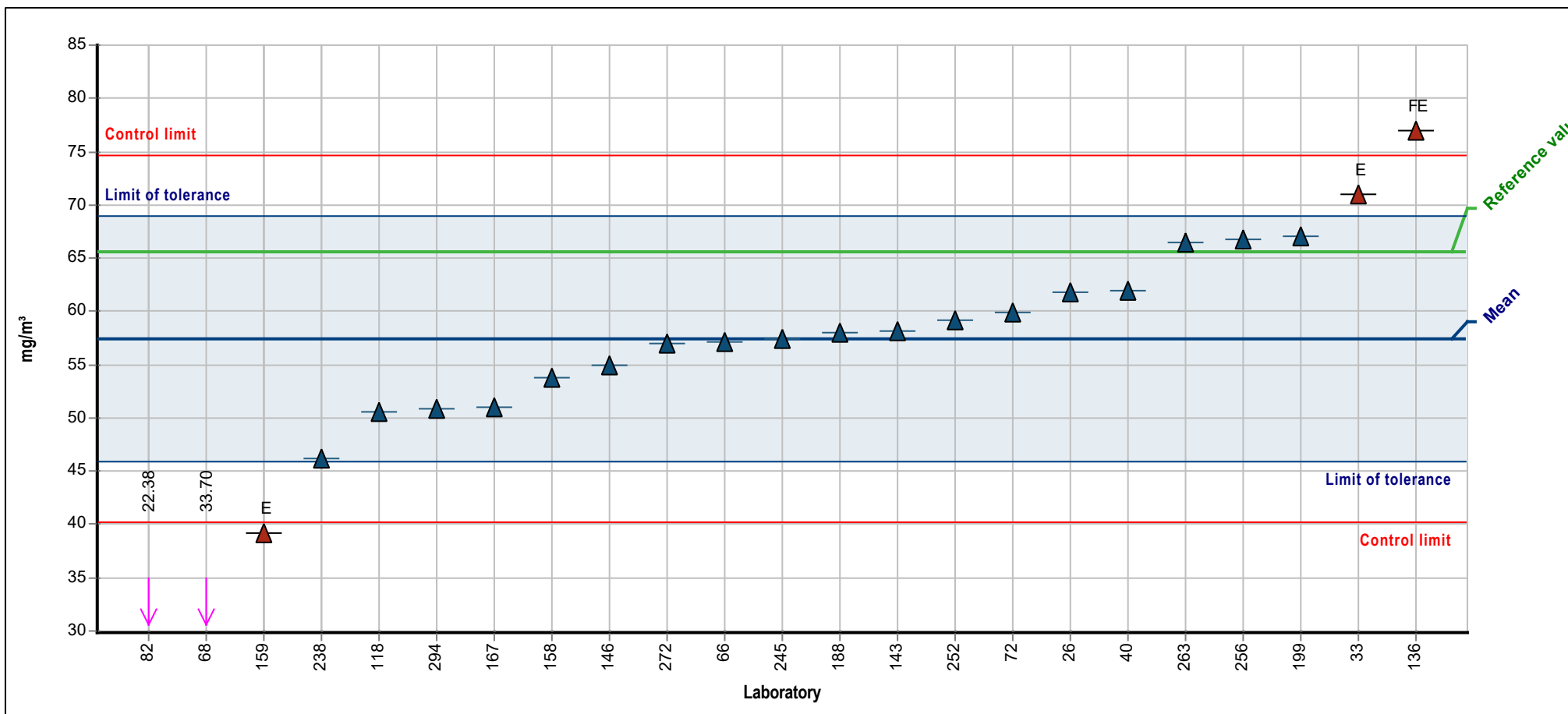


Organic Solvents 2026

Summary results

Sample: 1
 Measurand: 2-Propanol
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 23

Mean: 57.41 mg/m³
 Reproducibility s.d.: 7.63 mg/m³
 Rel. reproducibility s.d.: 13.3%
 Reference value: 65.60 mg/m³
 Range of tolerance: 45.93 - 68.90 mg/m³ ($|Z\text{-Score}| \leq 2.0$)
 Control limits: 40.19 and 74.64 mg/m³ ($|Z\text{-Score}| = 3.0$)

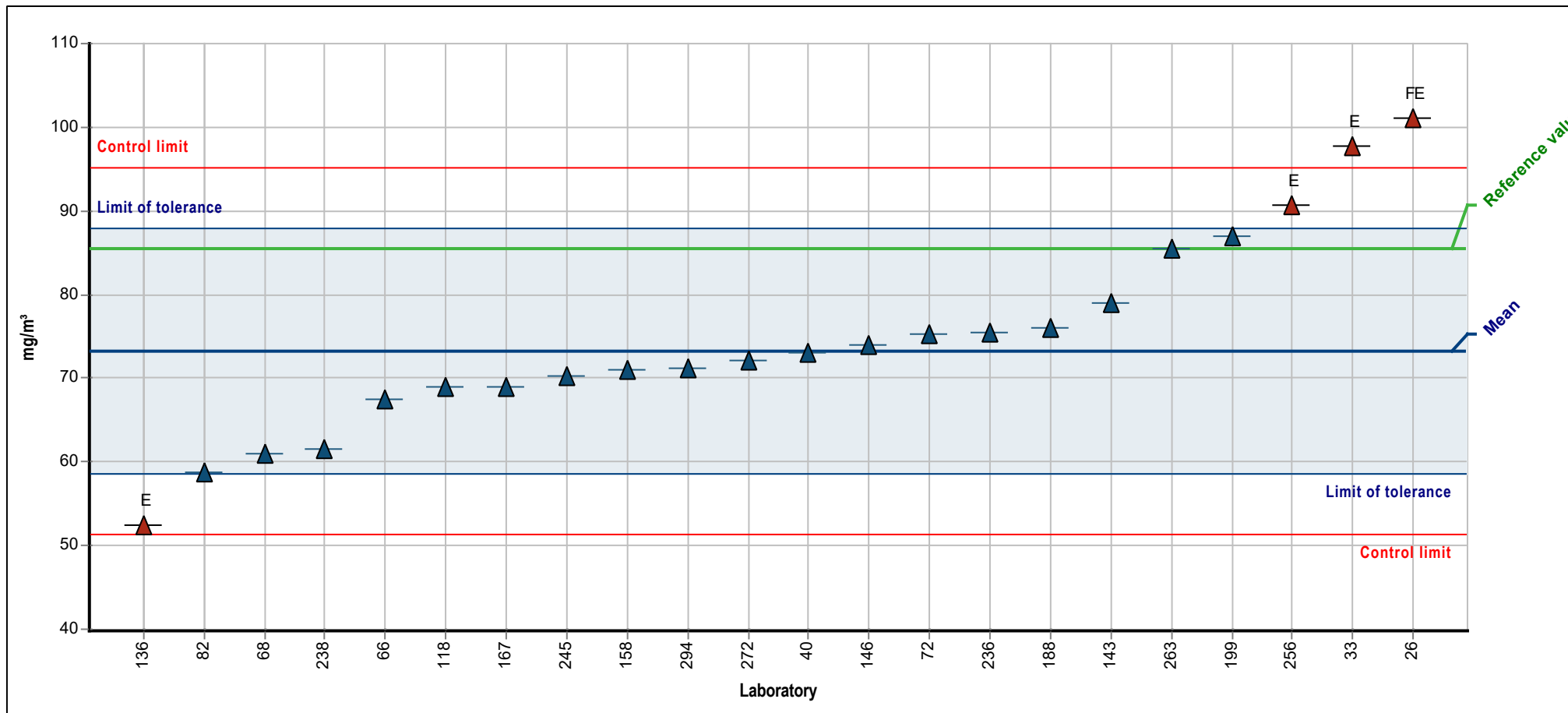


Organic Solvents 2026

Summary results

Sample: 2
 Measurand: 1-Butanol
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 22

Mean: 73.23 mg/m³
 Reproducibility s.d.: 10.75 mg/m³
 Rel. reproducibility s.d.: 14.7%
 Reference value: 85.40 mg/m³
 Range of tolerance: 58.58 - 87.87 mg/m³ (|Z-Score| ≤ 2.0)
 Control limits: 51.26 and 95.19 mg/m³ (|Z-Score| = 3.0)

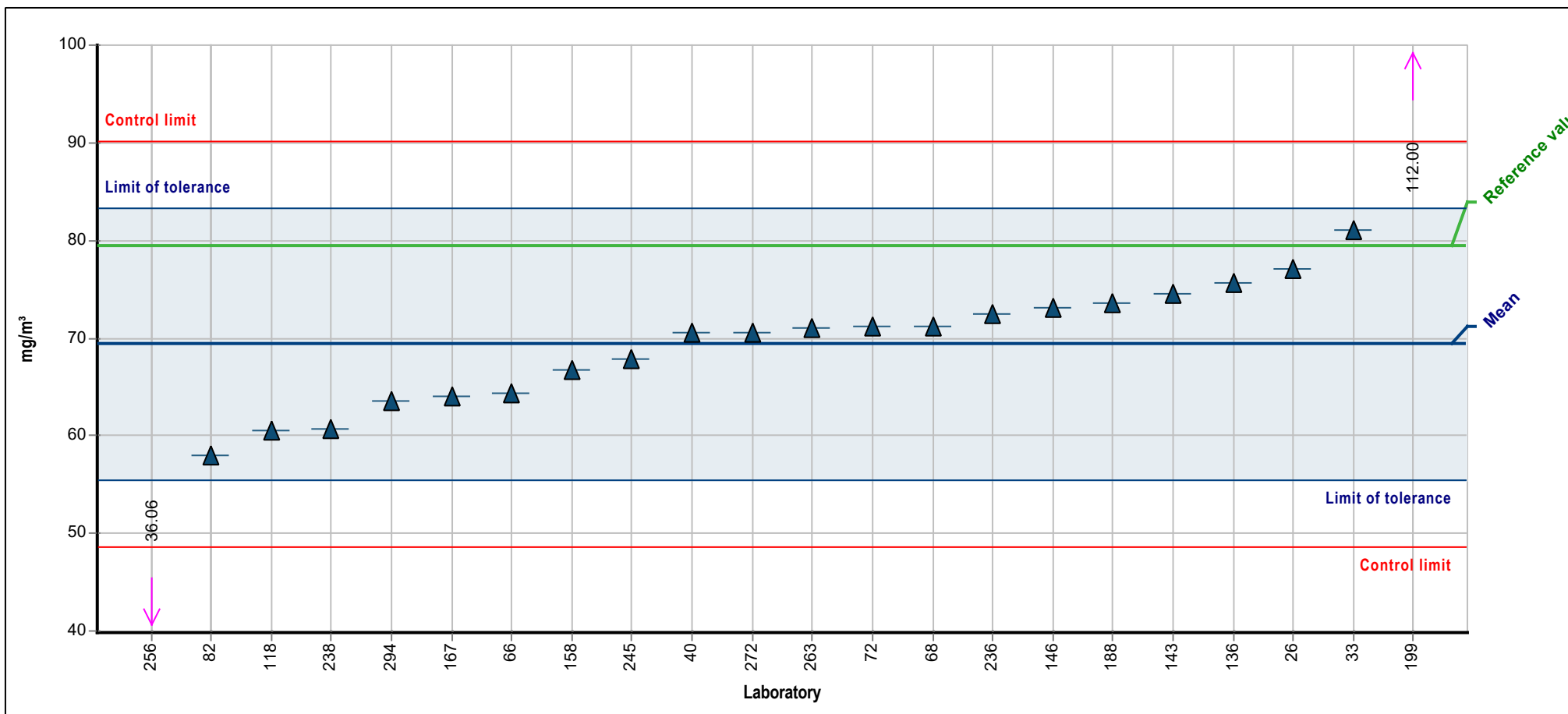


Organic Solvents 2026

Summary results

Sample: 2
 Measurand: 2-Butanol
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 22

Mean: 69.38 mg/m³
 Reproducibility s.d.: 6.04 mg/m³
 Rel. reproducibility s.d.: 8.7%
 Reference value: 79.50 mg/m³
 Range of tolerance: 55.51 - 83.26 mg/m³ ($|Z\text{-Score}| \leq 2.0$)
 Control limits: 48.57 and 90.20 mg/m³ ($|Z\text{-Score}| = 3.0$)

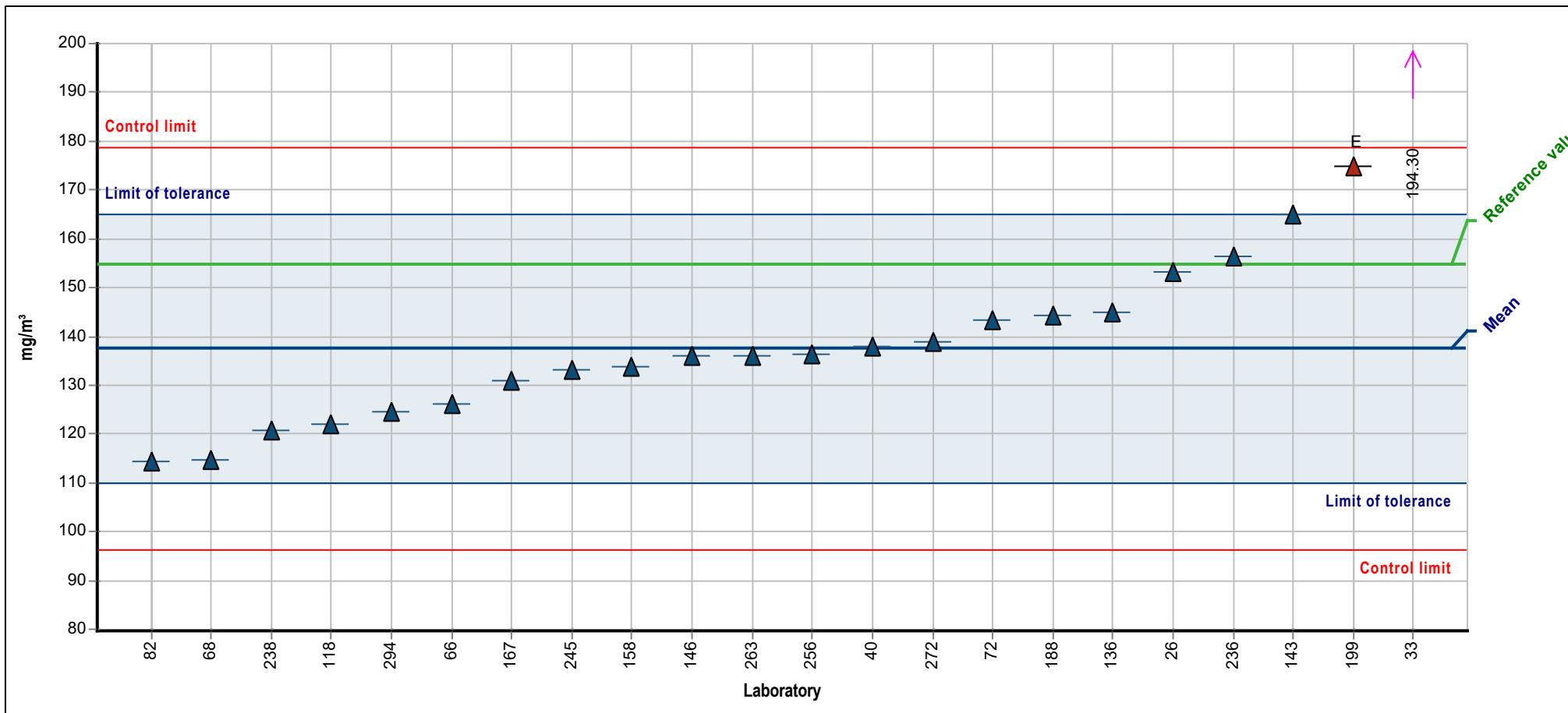


Organic Solvents 2026

Summary results

Sample: 2
 Measurand: iso-Butanol
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 22

Mean: 137.53 mg/m³
 Reproducibility s.d.: 15.57 mg/m³
 Rel. reproducibility s.d.: 11.3%
 Reference value: 154.70 mg/m³
 Range of tolerance: 110.02 - 165.03 mg/m³ ($|Z\text{-Score}| \leq 2.0$)
 Control limits: 96.27 and 178.79 mg/m³ ($|Z\text{-Score}| = 3.0$)

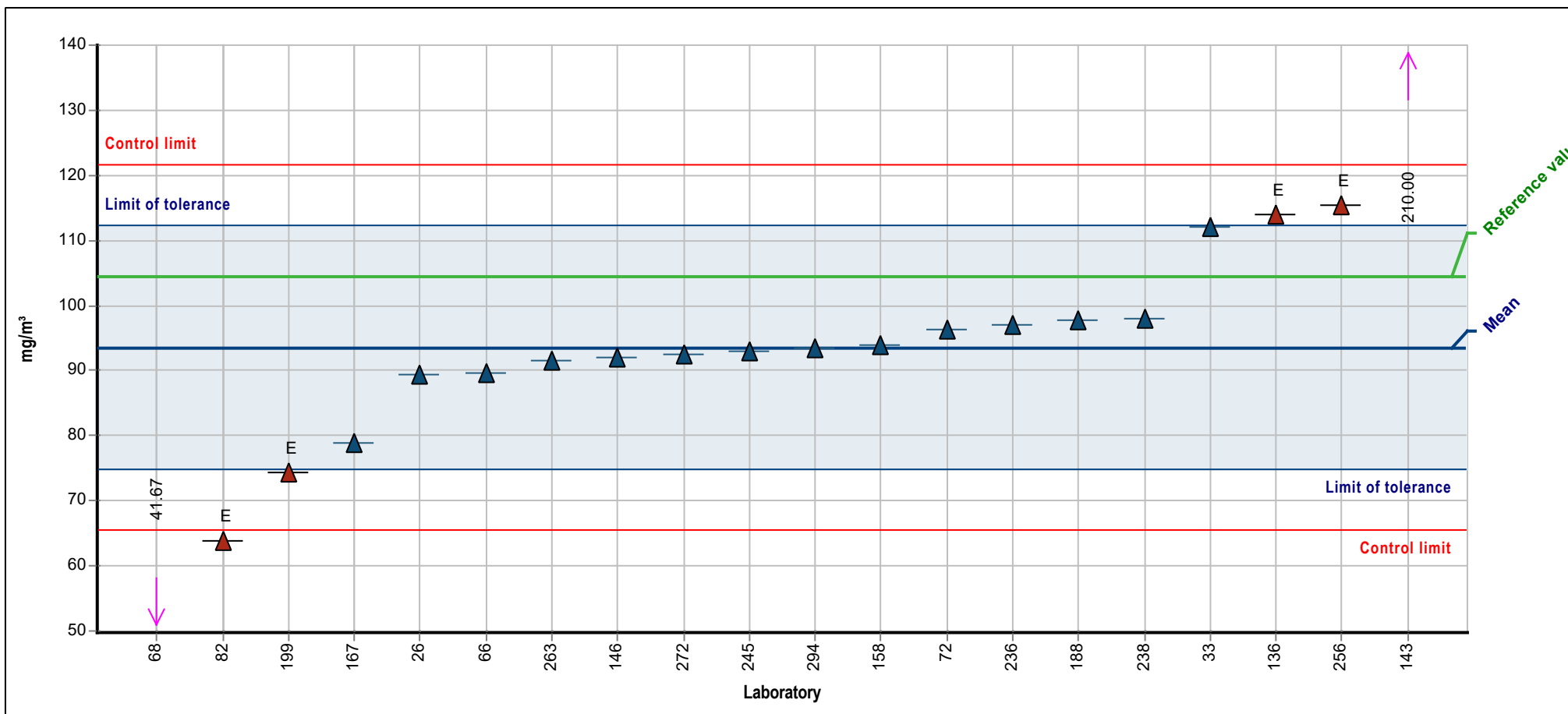


Organic Solvents 2026

Summary results

Sample: 2
 Measurand: 1-Methoxy-2-Propanol
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 20

Mean: 93.50 mg/m³
 Reproducibility s.d.: 12.80 mg/m³
 Rel. reproducibility s.d.: 13.7%
 Reference value: 104.40 mg/m³
 Range of tolerance: 74.80 - 112.20 mg/m³ ($|Z\text{-Score}| \leq 2.0$)
 Control limits: 65.45 and 121.55 mg/m³ ($|Z\text{-Score}| = 3.0$)

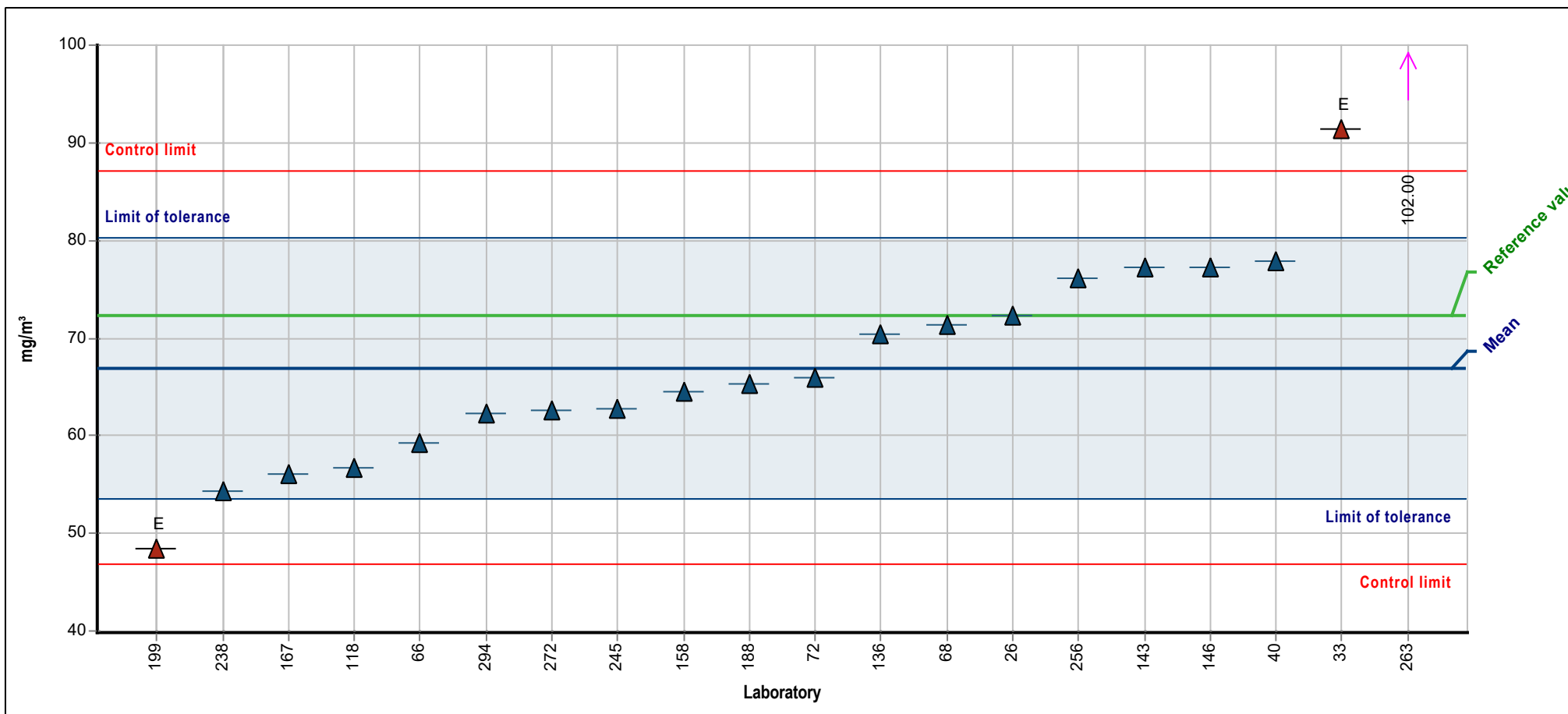


Organic Solvents 2026

Summary results

Sample: 2
 Measurand: 1-Propanol
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 20

Mean: 66.95 mg/m³
 Reproducibility s.d.: 10.32 mg/m³
 Rel. reproducibility s.d.: 15.4%
 Reference value: 72.30 mg/m³
 Range of tolerance: 53.56 - 80.34 mg/m³ ($|Z\text{-Score}| \leq 2.0$)
 Control limits: 46.86 and 87.03 mg/m³ ($|Z\text{-Score}| = 3.0$)

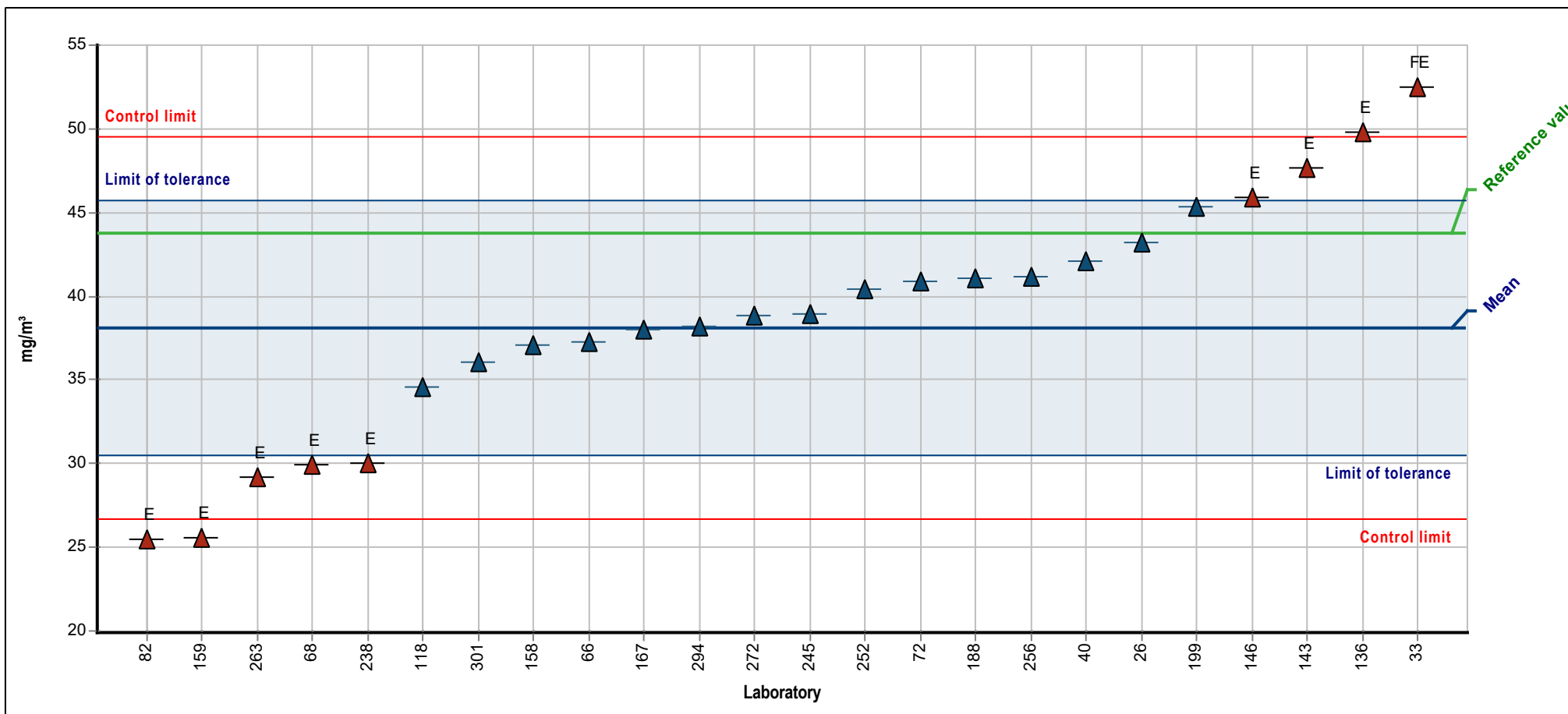


Organic Solvents 2026

Summary results

Sample: 2
 Measurand: 2-Propanol
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 24

Mean: 38.11 mg/m³
 Reproducibility s.d.: 6.61 mg/m³
 Rel. reproducibility s.d.: 17.3%
 Reference value: 43.80 mg/m³
 Range of tolerance: 30.49 - 45.74 mg/m³ ($|Z\text{-Score}| \leq 2.0$)
 Control limits: 26.68 and 49.55 mg/m³ ($|Z\text{-Score}| = 3.0$)

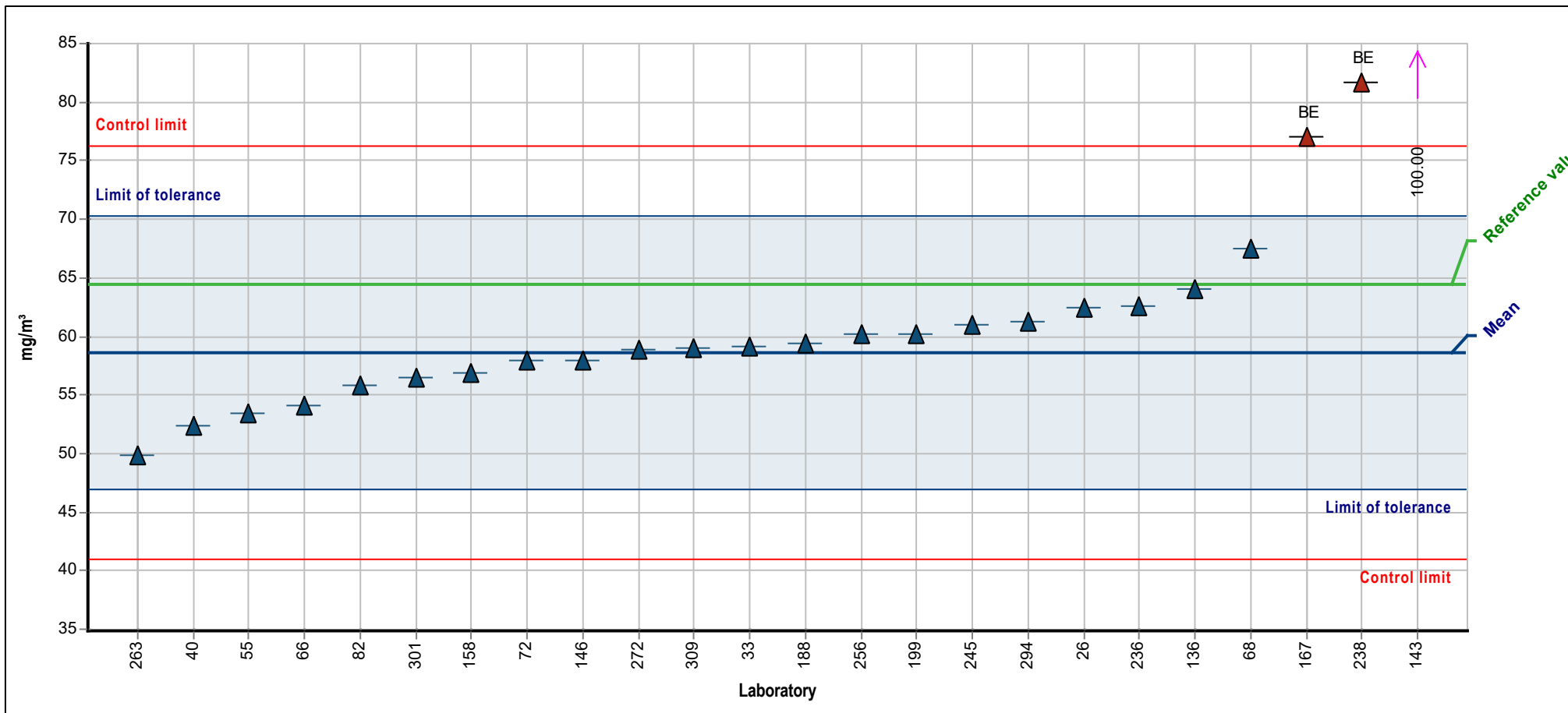


Organic Solvents 2026

Summary results

Sample: 3
 Measurand: n-Butyl acetate
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 24

Mean: 58.60 mg/m³
 Reproducibility s.d.: 4.10 mg/m³
 Rel. reproducibility s.d.: 7.0%
 Reference value: 64.40 mg/m³
 Range of tolerance: 46.88 - 70.32 mg/m³ ($|Z\text{-Score}| \leq 2.0$)
 Control limits: 41.02 and 76.18 mg/m³ ($|Z\text{-Score}| = 3.0$)

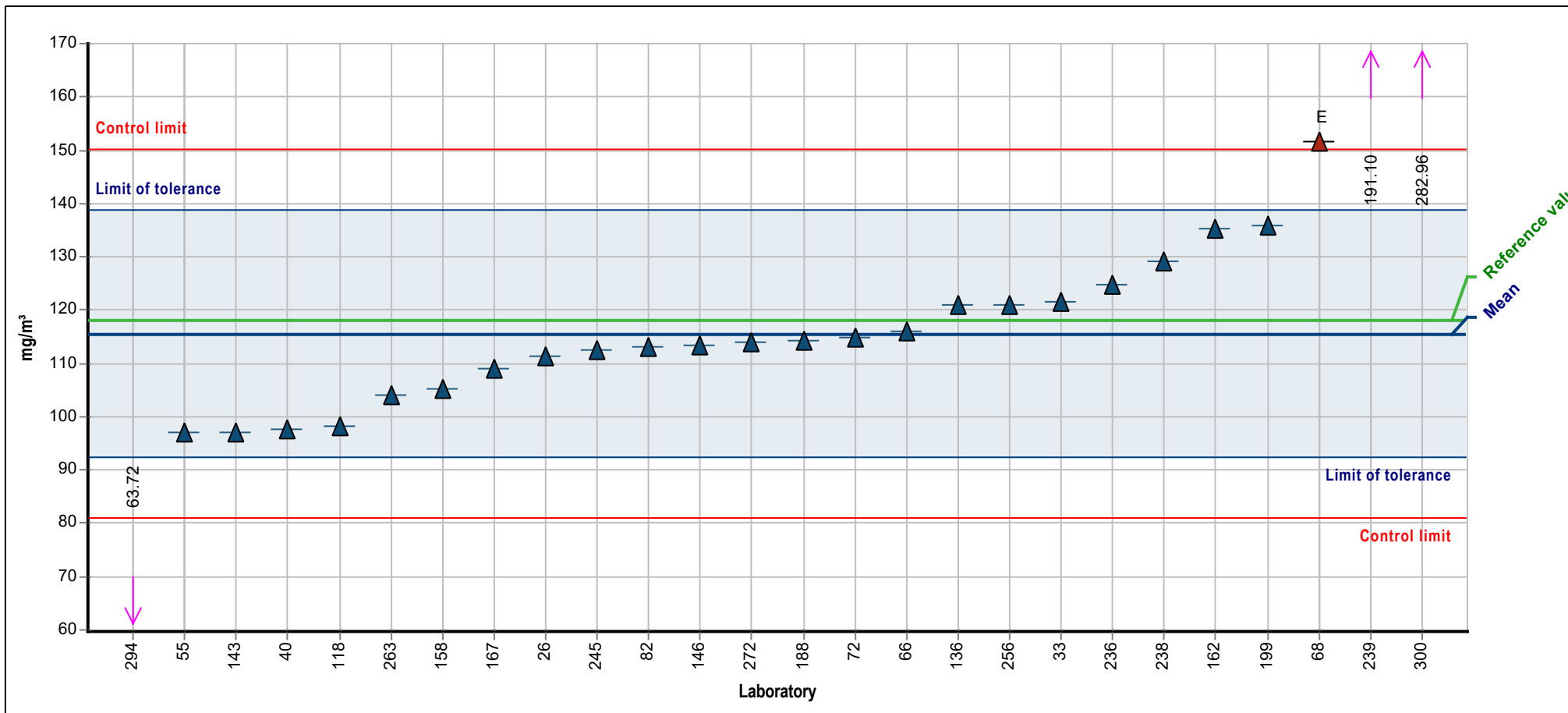


Organic Solvents 2026

Summary results

Sample: 3
 Measurand: Cumene
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 26

Mean: 115.57 mg/m³
 Reproducibility s.d.: 13.65 mg/m³
 Rel. reproducibility s.d.: 11.8%
 Reference value: 118.00 mg/m³
 Range of tolerance: 92.46 - 138.69 mg/m³ ($|Z\text{-Score}| \leq 2.0$)
 Control limits: 80.90 and 150.25 mg/m³ ($|Z\text{-Score}| = 3.0$)

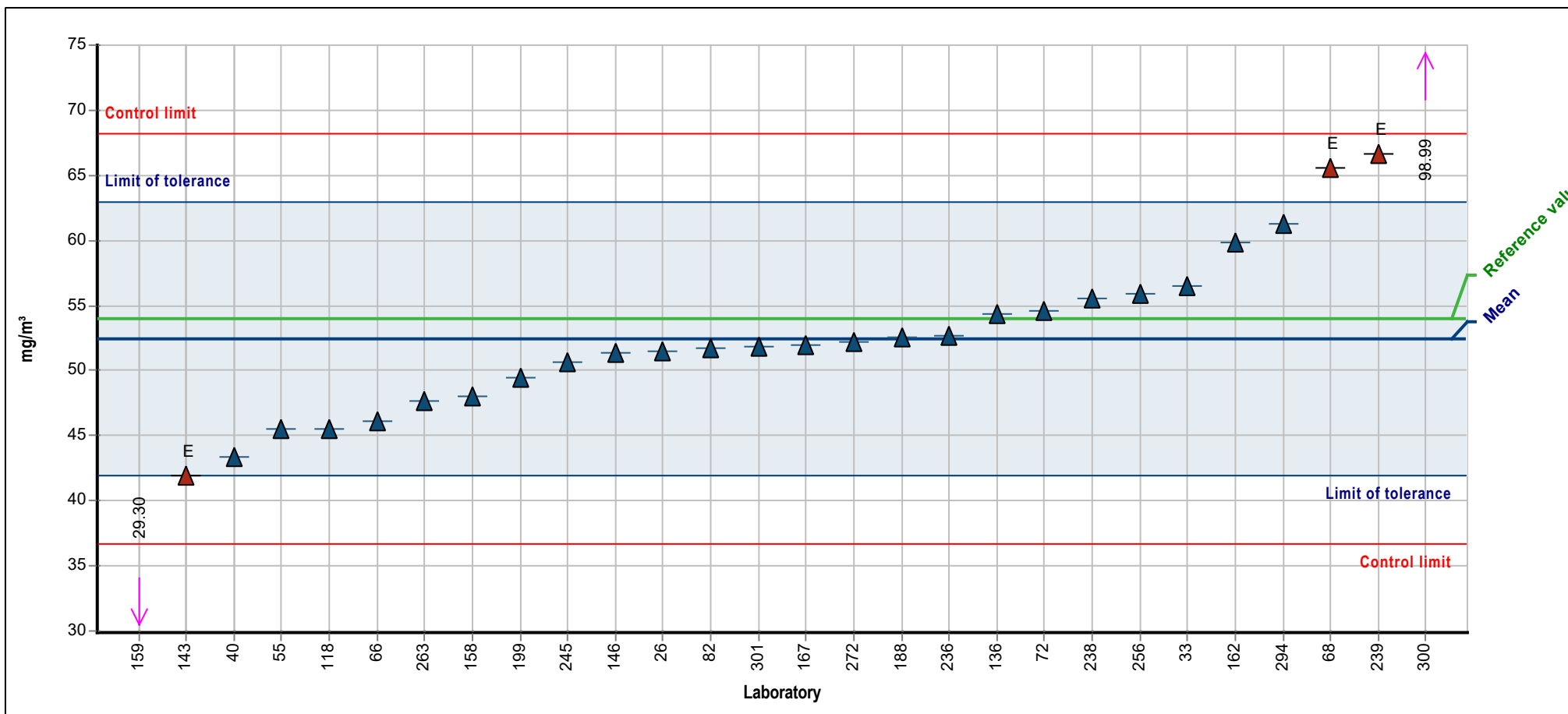


Organic Solvents 2026

Summary results

Sample: 3
 Measurand: Ethylbenzene
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 28

Mean: 52.47 mg/m³
 Reproducibility s.d.: 6.12 mg/m³
 Rel. reproducibility s.d.: 11.7%
 Reference value: 54.00 mg/m³
 Range of tolerance: 41.98 - 62.96 mg/m³ ($|Z\text{-Score}| \leq 2.0$)
 Control limits: 36.73 and 68.21 mg/m³ ($|Z\text{-Score}| = 3.0$)

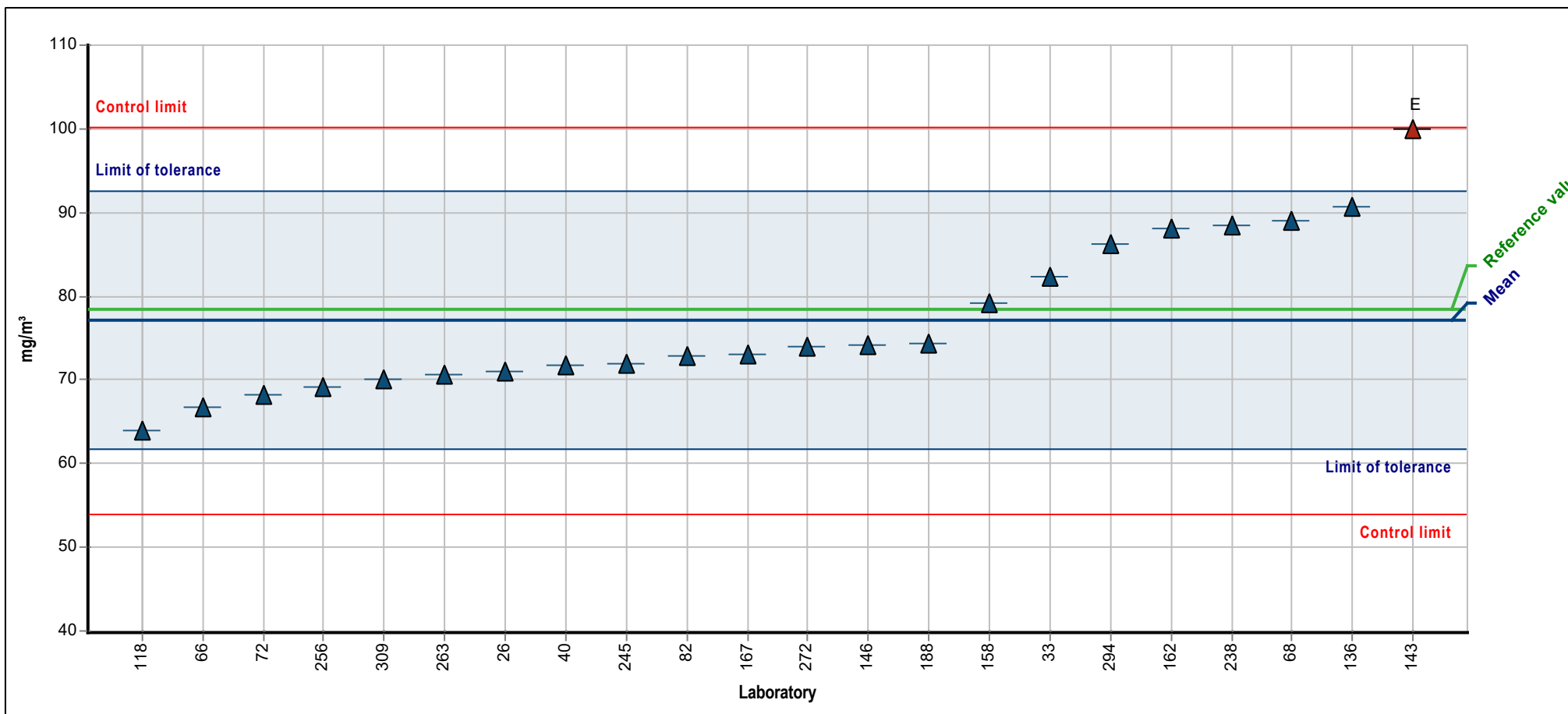


Organic Solvents 2026

Summary results

Sample: 3
 Measurand: Methylcyclohexane
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 22

Mean: 77.08 mg/m³
 Reproducibility s.d.: 9.46 mg/m³
 Rel. reproducibility s.d.: 12.3%
 Reference value: 78.40 mg/m³
 Range of tolerance: 61.66 - 92.49 mg/m³ ($|Z\text{-Score}| \leq 2.0$)
 Control limits: 53.95 and 100.20 mg/m³ ($|Z\text{-Score}| = 3.0$)

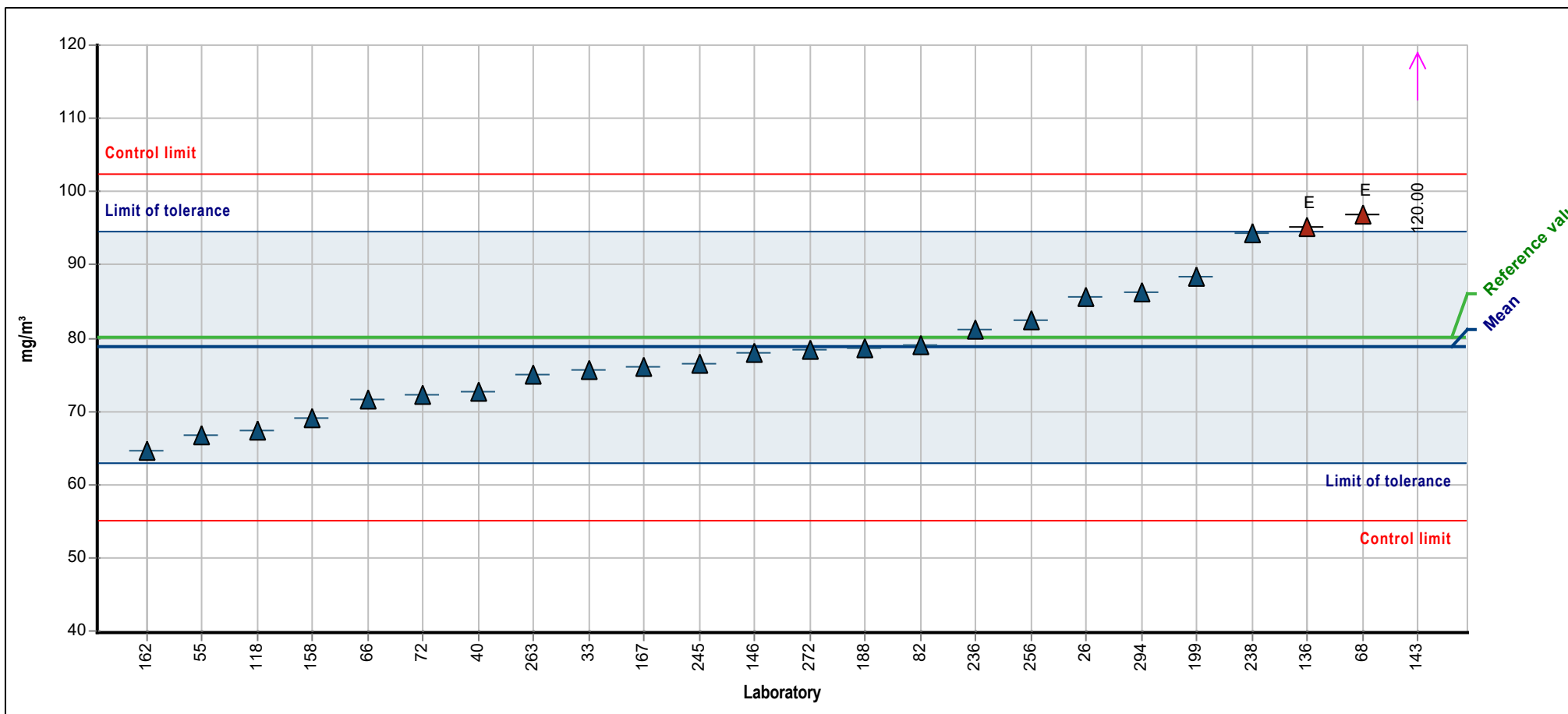


Organic Solvents 2026

Summary results

Sample: 3
 Measurand: n-Octane
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 24

Mean: 78.78 mg/m³
 Reproducibility s.d.: 9.01 mg/m³
 Rel. reproducibility s.d.: 11.4%
 Reference value: 80.20 mg/m³
 Range of tolerance: 63.02 - 94.54 mg/m³ ($|Z\text{-Score}| \leq 2.0$)
 Control limits: 55.15 and 102.41 mg/m³ ($|Z\text{-Score}| = 3.0$)

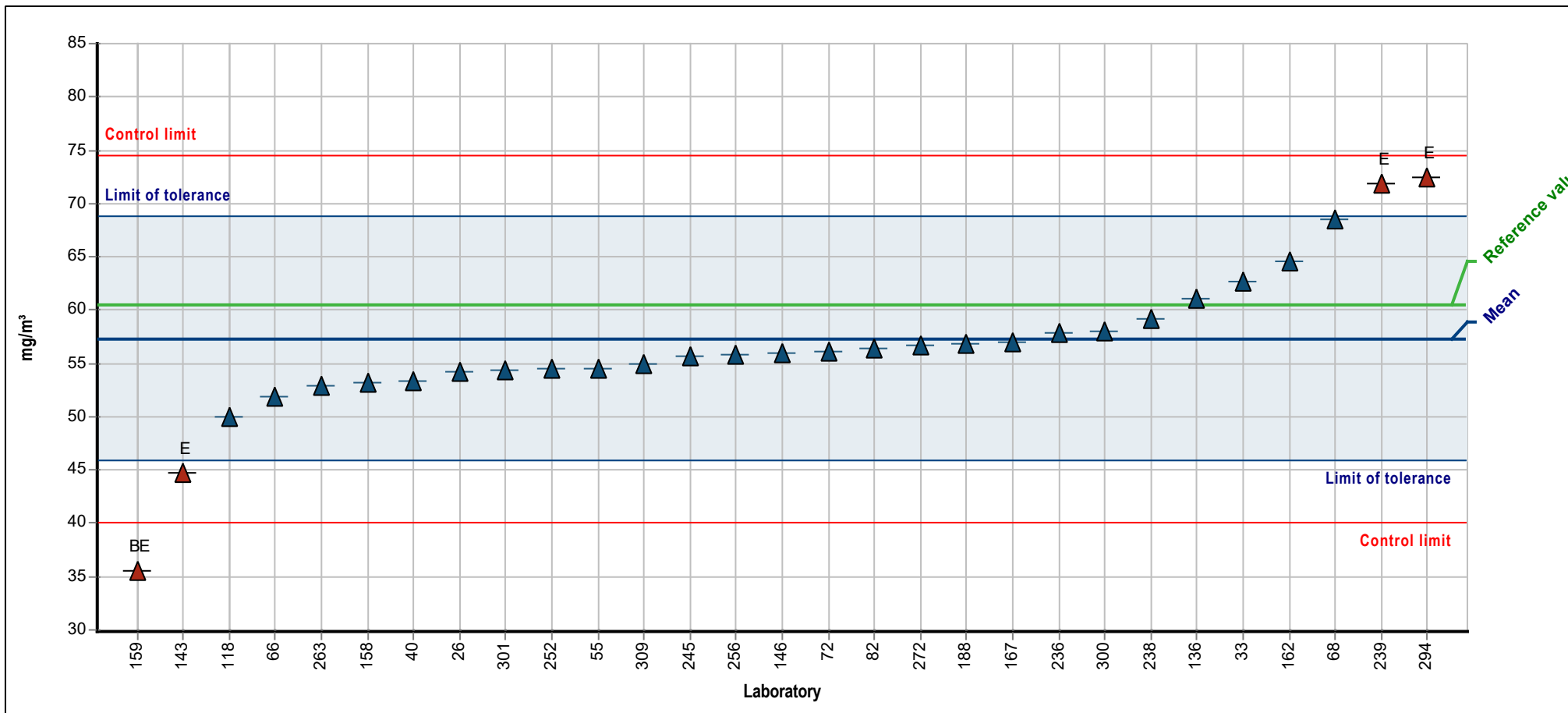


Organic Solvents 2026

Summary results

Sample: 3
 Measurand: Toluene
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 29

Mean: 57.33 mg/m³
 Reproducibility s.d.: 6.13 mg/m³
 Rel. reproducibility s.d.: 10.7%
 Reference value: 60.50 mg/m³
 Range of tolerance: 45.86 - 68.80 mg/m³ (|Z-Score| ≤ 2.0)
 Control limits: 40.13 and 74.53 mg/m³ (|Z-Score| = 3.0)

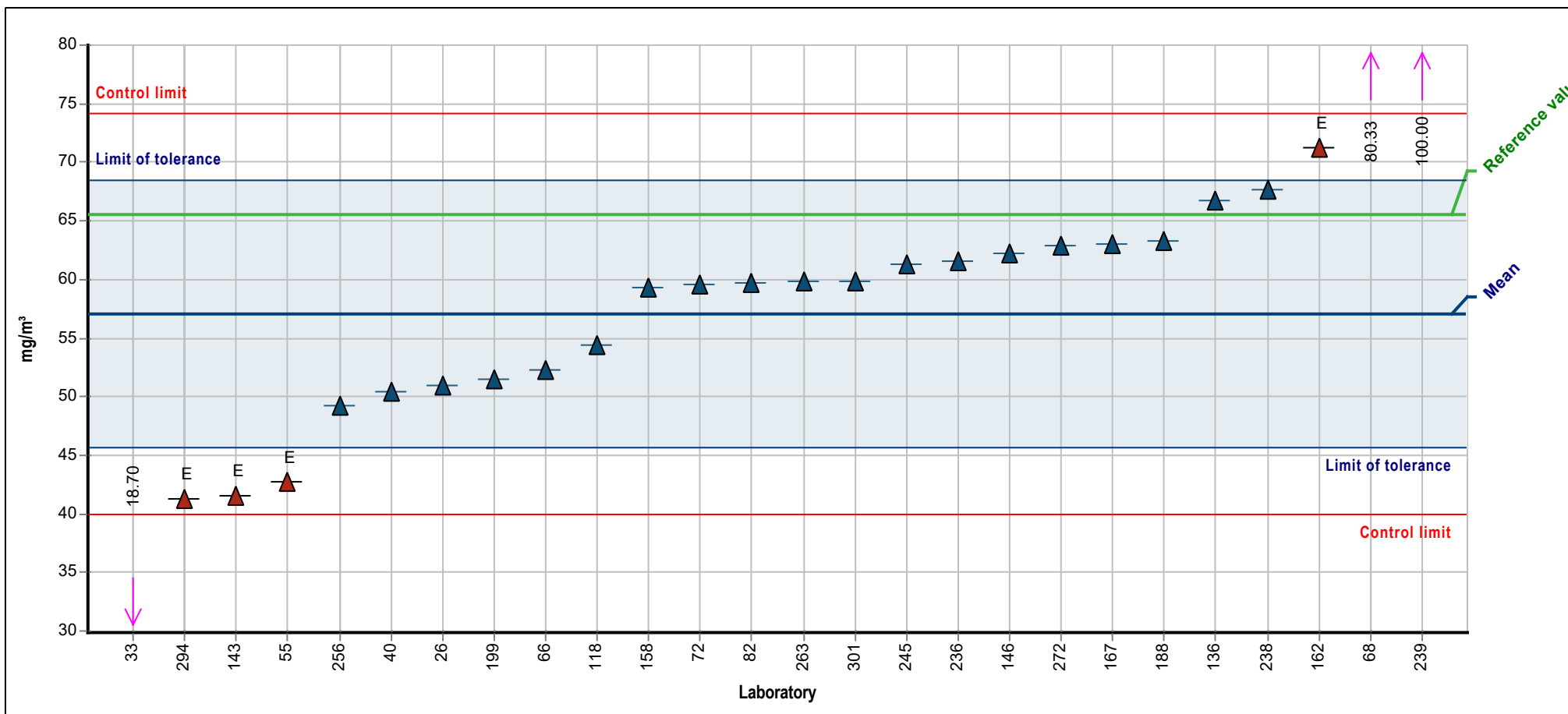


Organic Solvents 2026

Summary results

Sample: 3
 Measurand: 1,2,4-Trimethylbenzene
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 26

Mean: 57.06 mg/m³
 Reproducibility s.d.: 8.29 mg/m³
 Rel. reproducibility s.d.: 14.5%
 Reference value: 65.60 mg/m³
 Range of tolerance: 45.65 - 68.48 mg/m³ ($|Z\text{-Score}| \leq 2.0$)
 Control limits: 39.95 and 74.18 mg/m³ ($|Z\text{-Score}| = 3.0$)

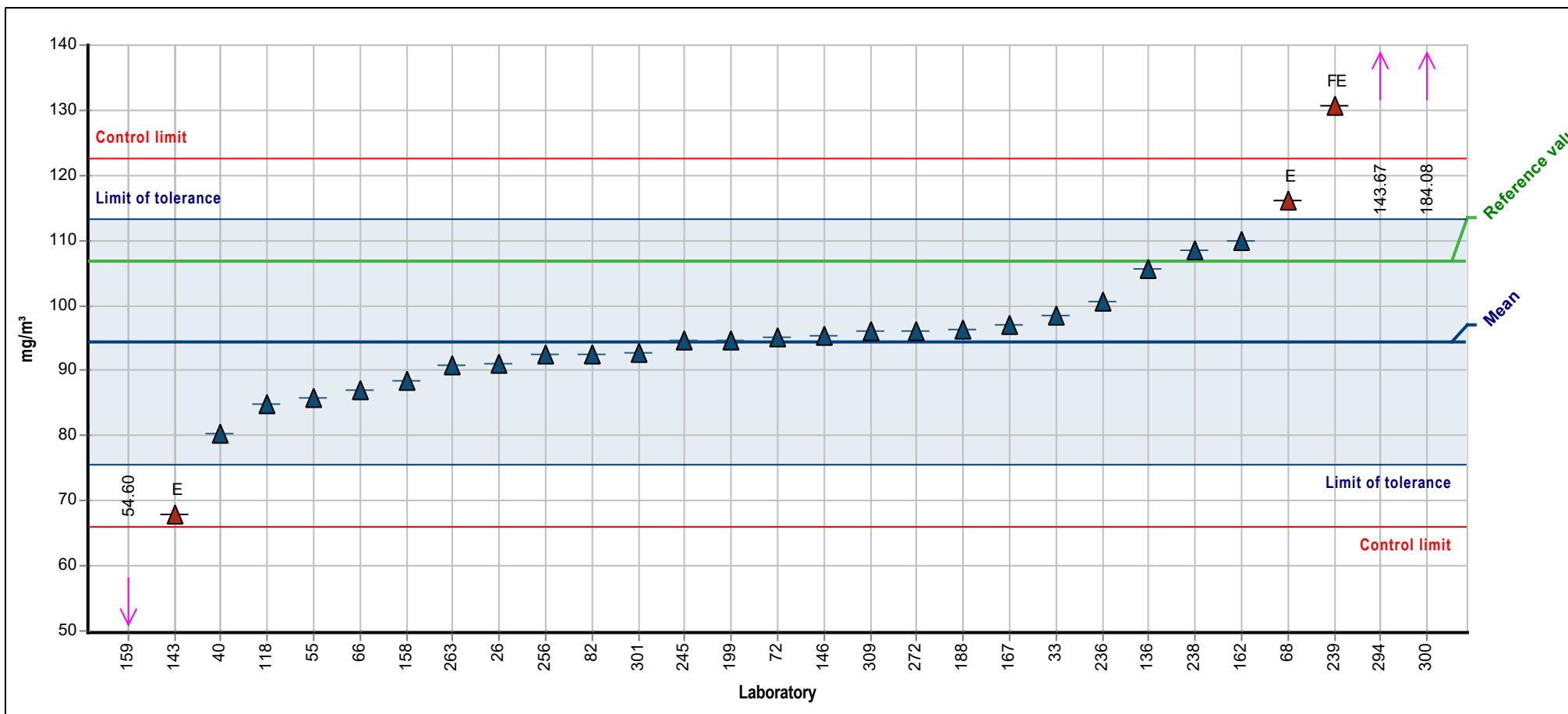


Organic Solvents 2026

Summary results

Sample: 3
 Measurand: o-Xylene
 Statistical method: ISO 5725-2
 Rel. SDPA: 10.0%
 Number of laboratories in calculation + outliers: 29

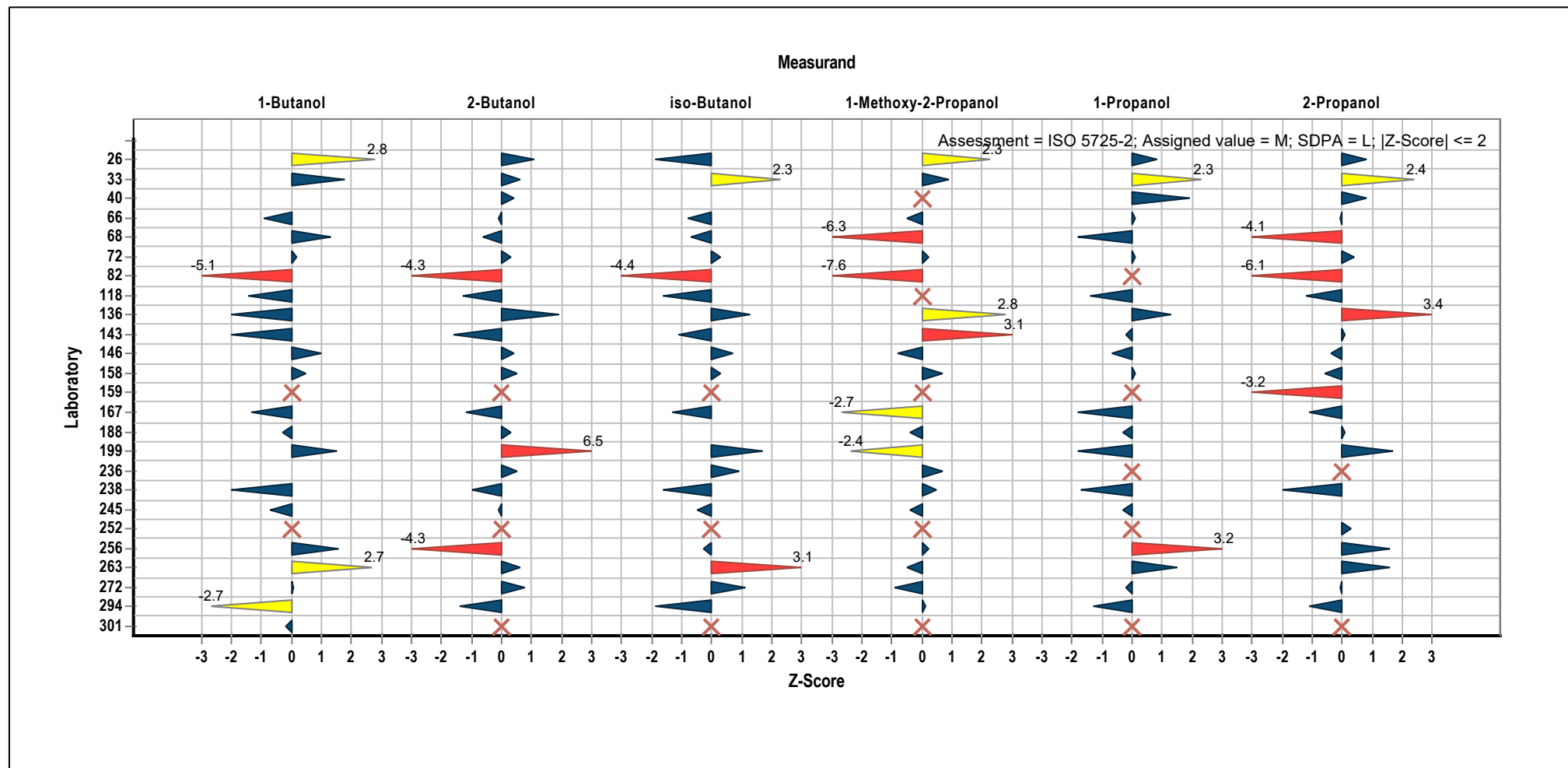
Mean: 94.34 mg/m³
 Reproducibility s.d.: 9.80 mg/m³
 Rel. reproducibility s.d.: 10.4%
 Reference value: 106.90 mg/m³
 Range of tolerance: 75.48 - 113.21 mg/m³ ($|Z\text{-Score}| \leq 2.0$)
 Control limits: 66.04 and 122.65 mg/m³ ($|Z\text{-Score}| = 3.0$)



Organic Solvents 2026

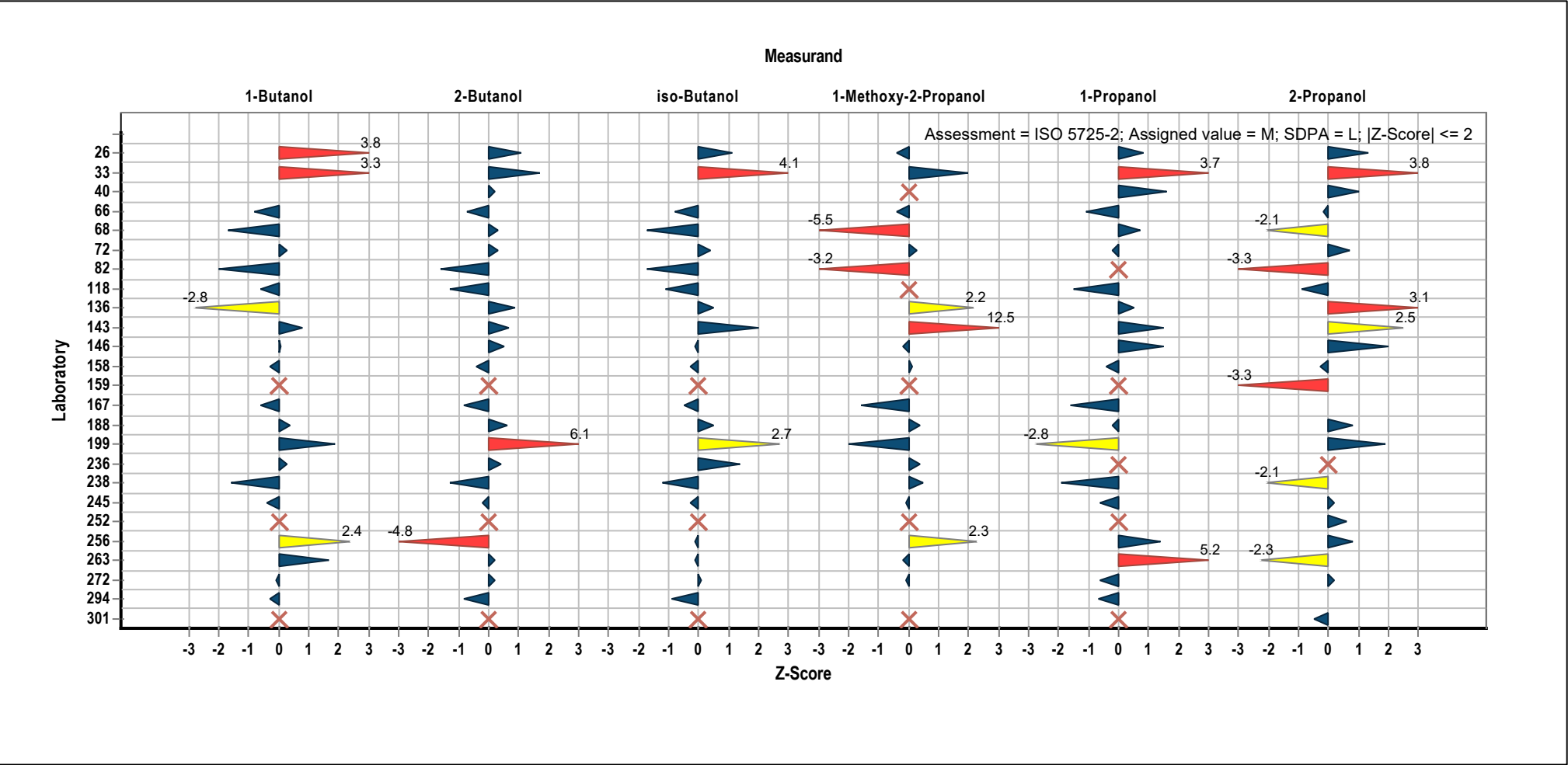
Sample chart of Z-Scores

Sample: 1



Organic Solvents 2026
Sample chart of Z-Scores

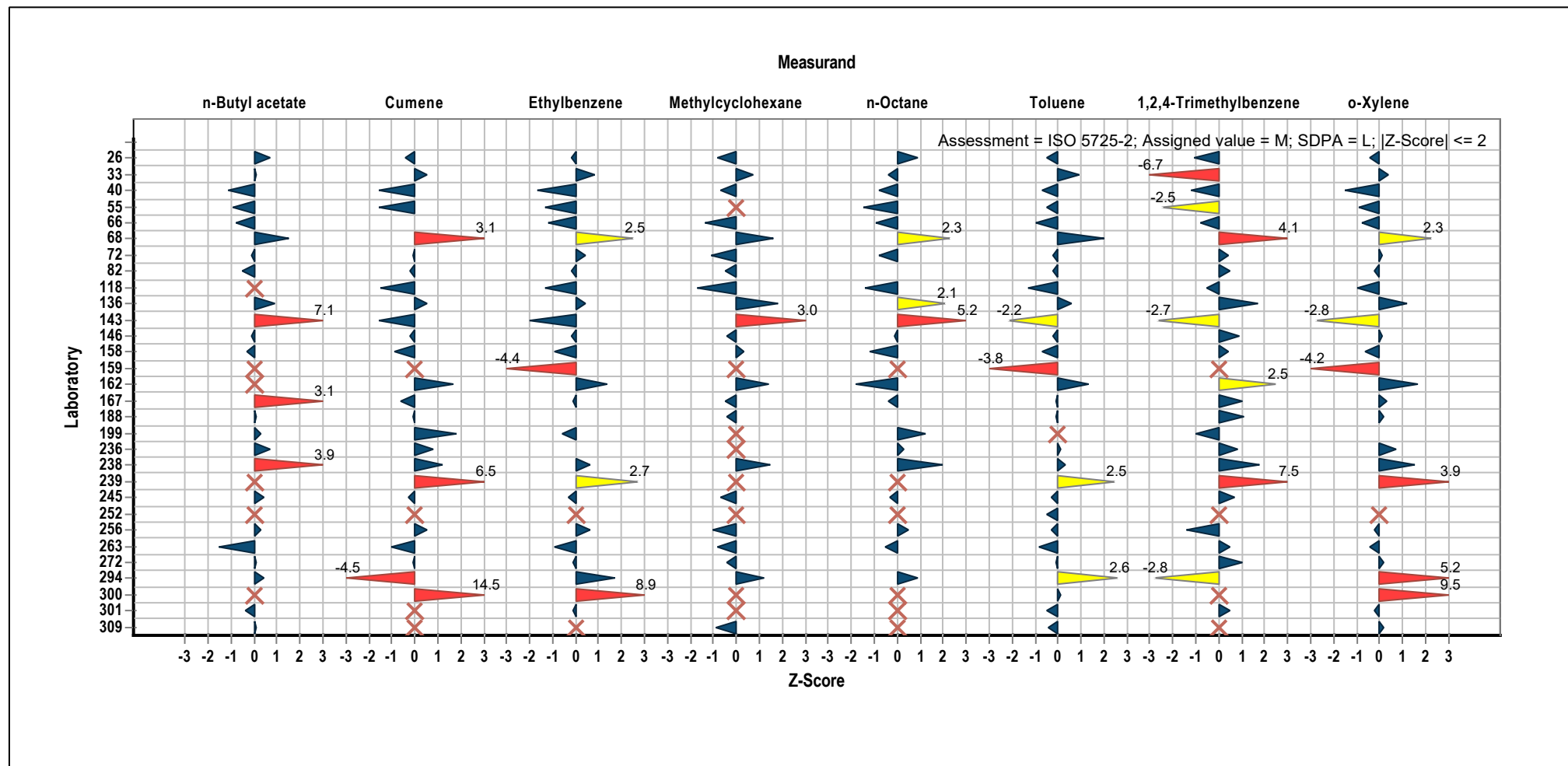
Sample: 2



Organic Solvents 2026

Sample chart of Z-Scores

Sample: 3



Organic Solvents 2026 with own Sampling

Questions and Answers

Participant	Sample carrier	Sampling pump
33	Aktivkohleröhrchen	SKC Universal-Luftprobennahmepumpe Typ 224
40	Aktivkohleröhrchen	Gilian LFS 113
66	Dräger Aktivkohleröhrchen Typ G	GSA SG 350
72		SG350 von GSA
136	Dräger Charcoal Tube	SKC 220-3100
143	A-Kohle (VOC) / Silika-Gel (Alkohole)	GIL-AIR plus
146	Dräger Röhrchen Aktivkohle Typ BIA (Lot: ARRK-1181)	Gilian GilAir-5 (Fa. Sensidyne) mit CF Modul
158		Gilian LFS-113 DC Low Flow Sampler
159	Aktivkohleröhrchen Typ B/G der Firma Dräger	PAS-Pumpe GSA
188	Aktivkohleröhrchen DRÄGER Typ B	SG5100 und SG4000
236		Sensidyne Gilian LFS-113
245	Dräger AK Typ BIA	GilAir+
252	Aktivkohle Typ BIA	GilAir 5 low flow , GilAir Plus, SG 5200
263	Aktivkohleröhrchen Typ: G (Fa. Dräger)	GSA Messgerätebau GmbH / Typ: SG350ex
272	Aktivkohle Typ BIA	GilAir Plus
294	Dräger, Aktivkohle	GilAir Plus
300	Dräger Typ NIOSH	GilAir Plus

Participant	Flow rate sampling	Flow rate measurement
33	50-500 ml	Bios Defender 510
40	30 mL/min // 200 mL/min // 40 mL/min	DryCal DC-Lite
66	0,333 l/min	Analyt-MTC
72	333ml/min	Defender 520 --> 50-5000ml --> von MesaLab
136	0,333 l/h	Casella - Flow detective
143	0,35 ml/min (VOC) / 0,03 ml/min (Alkohole)	Flow meter

Organic Solvents 2026 with own Sampling Questions and Answers

Participant	Flow rate sampling	Flow rate measurement
146	0,33 L/min	Seifenblasen-Durchflussmesser Gilibrator 2 (Fa. Sensidyne)
158	10 ml/min	Bios Int. Corp. Defender 510-L Rev C1
159	0,333 l/min	DryCal, Defender 510
188	40 l/h nach IFA	Gilibrator
236	30 mL/min	MesaLabs Bios DryCal Definer 220
245	0,333 l/min	Massendurchflussmesser TSI 4106
252	0,33 l/min	Gilian Gilibrator 3
263	0,333 l/min	TSI / Massendurchflussmesser (Massflow meter) / Typ: 5200
272	0,167 l/min	DryCal Defender 510-H
294	0,33 - 0,35 l/min	TSI 4116
300	24 L/h	Gilibrator 2

Participant	Sampling time
33	60-120 min
40	RUN 1&2: 120 min; RUN 3: 90 min & 120 min
66	120 Minuten
72	1h --> 120min
136	120 Minuten
143	ca. 120 min
146	30 Minuten
158	10, 15 und 30 min
159	30 min und 1 h
188	120 min
236	15 - 30 min
245	120 min

Organic Solvents 2026 with own Sampling

Questions and Answers

Participant	Sampling time
252	120 min
263	Je Prüfgas: 1 x 120 min / 3 x 45 min / 3 x 30 min / 3 x 15 min
272	120 min
294	116-120 Minuten
300	50 bis 70 Minuten

Participant	Analytical method
33	Hausmethode SOP M110, SOP M100
40	DFG-Methode Nr. 5 / DFG-Methode Lösemittelgemische Nr. 3 / Hausmethoden
66	IFA 7733, IFA 7732, IFA 7322, IFA 8415, IFA 6386, IFA 6387, IFA 6385, IFA 7569
72	Hausmethode in Anlehnung an IFA-Arbeitsmappe
143	DFG 1 (VOC) und 3 (Alkohole); Untervergabe nach IFA 7733/7732/7322
146	IFA 7732 2011, IFA 7733 2015, NIOSH 1400 1994, NIOSH 1450 2003, NIOSH 2554 2003
158	Hausmethode
188	IFA
236	DFG-Methode „Lösemittelgemische“ Nr. 6 (10/2013)
245	DFG-Luftanalysenband 1
252	Hausinterne Methode
263	IFA 7735 / IFA 7330
272	NIOSH 1400 1994 (Butanol, Propanol); NIOSH 1450 2003 (n-Butylacetat); IFA 7733 2005 (Propylbenzol, Ethylbenzol, Toluol, Trimethylbenzol, Xylol); IFA 7732 2011 (Methylcyclohexan, n-Octan); NIOSH 2554 2003 (1-Methoxy-2-Propanol)
294	IFA
300	in Anlehnung an IFA 7732 und IFA 7733

Participant	Front-/ back section
33	ja

Organic Solvents 2026 with own Sampling

Questions and Answers

Participant	Front-/ back section
40	nein
66	ja
72	ja
143	nein (VOC) / ja (Alkohole)
146	
158	ja
159	ja
236	
245	ja
252	ja
263	ja
272	Ja
294	nein
300	Wurde bei einer Probe mit der größten Sammelrate gemacht, es gab keinerlei Durchbrüche!

Participant	Desorption solution	Volume of desorption solution
33	Benzylalkohol	1 ml
40	H2O / CS2 / CS2+1-Propanol (95:5 vv) / Dichlormethan/Methanol/Wasser 65/33/2 (v/v)	10 mL/ 5 mL/ 1,5 mL
72	Benzylalkohol	5ml
143	CS2 (VOC) / dest. H2O (Alkohole)	3 (VOC) / 10 (Alkohole)
146	Schwefelkohlenstoff, Dichlormethan/Methanol (7:3)	
158		
159	Desorptionsmittel: 25ml CS2 mit 10µl IS n-Hexan	2 ml
236		
245	Ternäres Gemisch	4 ml

Organic Solvents 2026 with own Sampling

Questions and Answers

Participant	Desorption solution	Volume of desorption solution
252	DMF:CS2 (60:40)	5 ml
263	PG 1 und PG 2 ternäres Gemisch, PG3 CS2	5 mL
272	Schwefelkohlenstoff (unpolare) und 7:3 Dichlormethan/Methanol (polare)	10 mL
294	Gemisch aus Dichlormethan und Methanol bzw. DMF	1
300	Schwefelkohlenstoff	1 mL

Participant	Gas chromatograph (GC)	Sample injection
33	PE-HS	Headspace
40	7890B	split
72	Agilent 7890B	Split 50:1
143	Agilent 7890A / Agilent 8890	split /split
146		
158	GC/MS (Agilent 7890/5975c)	Splitmodus
159	Agilent 7890B	splitlos
236	Agilent 7890A	split
245	Thermo Trace GC 1310	split
252	Shimadzu GC 2010 Plus	split
263	Perkin Elmer Autosystem FID	split
272	Agilent 7890B und Agilent 7820A	split/splitless
294	Agilent GC 6890 N (Headspace) / Agilent 7890A (GC)	splitlos
300	Agilent 6890N	split

Participant	Carrier gas
33	Helium
40	Helium

Organic Solvents 2026 with own Sampling

Questions and Answers

Participant	Carrier gas
72	Helium
143	He / He
146	
158	Helium
159	Helium
236	He
245	Stickstoff 5.0
252	Helium
263	Stickstoff
272	Stickstoff
294	Helium
300	Stickstoff

Participant	Analytical column
33	DB-VRX
40	DB-1, 60 m, 0,32 mm, 5 µm // HP-5ms, 30 m, 0,25 mm, 0,25 µm
72	Zebtron ZB-Wax 30m x 0,25mm x 0,25µm
143	HP-VC 60x200x1,1
146	
158	Resteck RTX-1 60m, ID 0,25 x 1µm
159	HP-5ms Ultra Inert
236	DB-624
245	Phenomenex ZB-5 (60 m x 0,32 mm x 1,0 µm)
252	Rxi-5 Sil MS
263	Quadrex 5% Phenyl Methyl Silicon, 50 m, 0,32 mm, 2,5 µm; Quadrex Methyl 7 %, Cyanopropyl 7%, Phenylsilicon, 50 m, 0,32 mm, 1 µm

Organic Solvents 2026 with own Sampling

Questions and Answers

Participant	Analytical column
272	OPTIMA 1 (unpolare) und OPTIMA WAX (polare)
294	RTX-Wax, 30 m 0,25 mm* 0,5m / RTX_Volatile 30m, 0,25 mm*1µm
300	DB-WAX 60m x 0,250mm x 0,25µm und DB-5 60m x 0,250mm x 0,25µm

Participant	Detector	Data evaluation
33	FID	externer Standard
40	MS	interner Standard
72	FID	externer Standard
143	single Quadrupol MSD	intern
146		
158	MSD Agilent 5975C	
159	FID	interner Standard, externe Kalibrierung
236	FID	ESTD
245	FID	extern
252	FID	Interner Standard
263	Doppelsäulen-FID	externe Kalibrierung, Verwendung interner Standards
272	FID	Externer Standard
294	Agilent MSD 5973 (Headspace) / Agilent 5975C (GC)	interner Standard
300	FID	interner Standard

Participant	Recovery rate	Date of analysis
33	ja	siehe Oben
40	ja	26.02.2026/ 27.02.2026 / 06.03.2026
66		03.03.2026
72	ja	siehe oben

Organic Solvents 2026 with own Sampling Questions and Answers

Participant	Recovery rate	Date of analysis
136		16.4.2026
143	nein	26.02.2026 (04.03.2026 Nachmessung) (VOC) / 12. und 17.03.2026 (Alkohole)
146		
159	ja	19.03.2026
236	nein	5.3.2026
245	nein	09. - 13.03.2026
252	nein	31.03.2026
263	nein	05. März bis 10. März 2026
272	Ja	Eingang am 02.03.2026, Ausgang am 11.03.2026
294	Ja	16.03/17.03.2026
300	nein	12.03.2026

Organic Solvents 2026

Questions and Answers

Participant	Sample carrier
26	AK
55	
68	Aktivkohleröhrchen
82	Typ Bia
118	NIOSH
162	NIOSH
167	NIOSH Charcoal Tubes
199	NIOSH
238	/
239	
256	Dräger Aktivkohleröhrchen, Typ NIOSH
301	
309	Dräger Aktivkohle Typ Bia: 6733011

Participant	Analytical method
26	Ausschließlich mittels entsprechender IFA-Methoden
55	GCMS
68	Eigene Methode
82	Hauseigene Methode
118	Inhouse-Methode in Anlehnung an IFA-Arbeitsmappen
162	Hausmethode, angelehnt an IFA-Kennzahlen 7732 und 7733
167	Internal Method
199	Hausmethode, angelehnt an VDI 2100 Blatt 2
238	
256	VDI 2100 Blatt 2

Organic Solvents 2026

Questions and Answers

Participant	Analytical method
301	Sample 1 – The NIOSH 1405:1994 analytical method was used. Sample 2 – The NIOSH 1400:1994 analytical method was used. Sample 3 – An in-house method based on the NIOSH 1501:2003 and NIOSH 1450:2003 methods was used.
309	IFA 7732 (Methylcyclohexan) IFA 7733 (Toluol, Xylol), IFA 7322 (n-Butylacetat)

Participant	Front- and back section separated
26	nein, gemeinsame Aufarbeitung/Analyse
55	yes
68	Ja
82	Ja
118	nein, zusammen
162	Nein
167	Yes
199	nein
238	yes
256	nein
301	Yes, the coal sections were separated for analysis.
309	ja

Participant	Desorption solution
26	Probe 1 & 2: ternäres Gemisch. Aufgrund eines internen Fehlers beim Anlegen der Probe 3 wurde diese mit lediglich mit CS ₂ extrahiert. Regelmäßig wird für alle betroffenen Methode ternäres Gemisch verwendet.
55	CS ₂
68	CS ₂
82	CS ₂
118	ternäres Gemisch (CH ₂ CL ₂ :CS ₂ :MeOH) = 60:35:5
162	Schwefelkohlenstoff

Organic Solvents 2026

Questions and Answers

Participant	Desorption solution
167	CS ₂
199	Benzylalkohol
238	Sample 1 : CS ₂ /DCM 90/10 Sample 2 / sample 3 : CS ₂
256	Diethylether und CS ₂
301	Sample 1 – 1 mL of Carbon Sulphide with 5% (v/v) 2-Propanol. Sample 2 – 1 mL of Carbon Sulphide with 1% (v/v) 2-Butanol. Sample 3 – 1 mL of Carbon Sulphide.
309	Methylenchlorid (60%) Schwefelkohlenstoff (35%) Methanol (5%)

Participant	Volume of desorption solution
26	10 mL je Schicht.
55	2
68	1 ml
82	3 ml
118	10mL
162	1 ml
167	1,5 mL
199	5 mL
238	2 mL
256	2x 5 mL
301	For each sorbent section, 1 mL of desorption solution was used.
309	10 ml

Participant	Gas chromatograph (GC)
26	Agilent 5975C
55	Agilent
68	Agilent 8890

Organic Solvents 2026

Questions and Answers

Participant	Gas chromatograph (GC)
82	Agilent 7890A
118	Agilent 7890A
162	Shimadzu GC-2010 Plus
167	Agilent 7890 and Agilent 8890
199	Headspace-GC/MS
238	Sample 2 et sample 3 : GC-MS Sample 1 : GC-FID
256	Agilent Technologies 7890B
301	We used an Agilent Technologies 6890N gas chromatograph, equipped with a 7683 Series autosampler, a 7683 Series automatic injector, a flame ionisation detector, and ChemStation G2070AA Revision A.09.03 software.
309	Trace GC 1310

Participant	Sample injection
26	Split
55	split
68	split
82	split
118	on-column
162	split
167	Splitless (Agilent 7890) and on-column (Agilent 8890)
199	split
238	split
256	splitless
301	The samples were injected in split mode: Sample 1 – Split ratio – 5:1 Sample 2 – Split ratio – 10:1 Sample 3 – Split ratio – 15:1
309	split

Participant	Carrier gas
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Organic Solvents 2026

Questions and Answers

Participant	Carrier gas
26	Stickstoff
55	Helium
68	Helium
82	Stickstoff
118	Stickstoff
162	Wasserstoff
167	He (7890), N2 (8890)
199	Helium
238	Hydrogen
239	Helium
256	Helium
301	The carrier gas used was helium.
309	Helium

Participant	Analytical column
26	Alkohole: Säule DB Wax UI , andere Komponenten: Mit Rtx VMS 60m
55	rtx502.2
68	VOCOL 60m x 0.25mm x 1.5µm
82	HP5 30m 0,32µm X 0,25µm
118	DB-5 / DB-WAX
162	Rtx DHA-50 (50m x 0.20 mm ID x 0.5 µm)
167	Agilent DB 624 30m, 0,25mm id, 1,4 µm (Agilent 7890N), Restek Porapak PS 80/20 2m, 2mm id (Agilent 8890)
199	DB-1701 und DB-5.625
238	DB624
256	RTx-624 (L = 40 m, ID = 0.18 mm, FD = 1 µl)

Organic Solvents 2026

Questions and Answers

Participant	Analytical column
301	Capillary column, Cronus, CGB-WAX, (L=30 m; ID=0.32mm; Film=0.25µm), P/N CG-140233 S/N NF-30352, w as used.
309	DB 5 (60m Länge, Innendurchmesser 0,25mm, Filmdicke 0,25µm) und HP Innow ax (60m Länge, Innendurchmesser 0,25mm, Filmdicke 0,25µm)

Participant	Detector
26	MS
55	MS
68	FID
82	FID
118	FID
162	FID
167	FID
199	MS
238	Sample 2 / sample 3 : GC-MS Sample 1 : GC-FID
256	MSD
301	A flame ionization detector w as used.
309	FID

Participant	Data evaluation
26	intern
55	internal
68	Externer Standard
82	Quantifizierung über Internen Standard, Identifikation über Retentionszeiten der Bezugssubstanzen
118	interner Standard
162	Interner Standard
167	Internal Standard

Organic Solvents 2026

Questions and Answers

Participant	Data evaluation
199	externe Standards mit Korrektur über internen Standard
238	internal
256	Interner Standard
301	The quantification and identification of organic compounds is based on the areas of the peaks obtained using the external standard method.
309	Interner Standard

Participant	Recovery rate
26	ja
55	yes
68	Nein
82	Nein
162	Ja
167	No
199	nein
238	No
256	ja
301	The results obtained have not been corrected with the recovery rates.
309	nein

Participant	Date of analysis
26	06.-27.03.2026
55	9/04/2026
68	31.03.2026
82	05 / 16.03.2026
118	12.03.2026

Organic Solvents 2026

Questions and Answers

Participant	Date of analysis
162	06.03.2026
167	24.Mar.2026
199	24.03.26 - 16.04.26
238	03/03/2026
256	11.03.2026
301	The samples were analysed on the following dates: Sample 1 – 1 April 2026 Sample 2 – 6 April 2026 Sample 3 – 20 March 2026
309	13.03.2026