

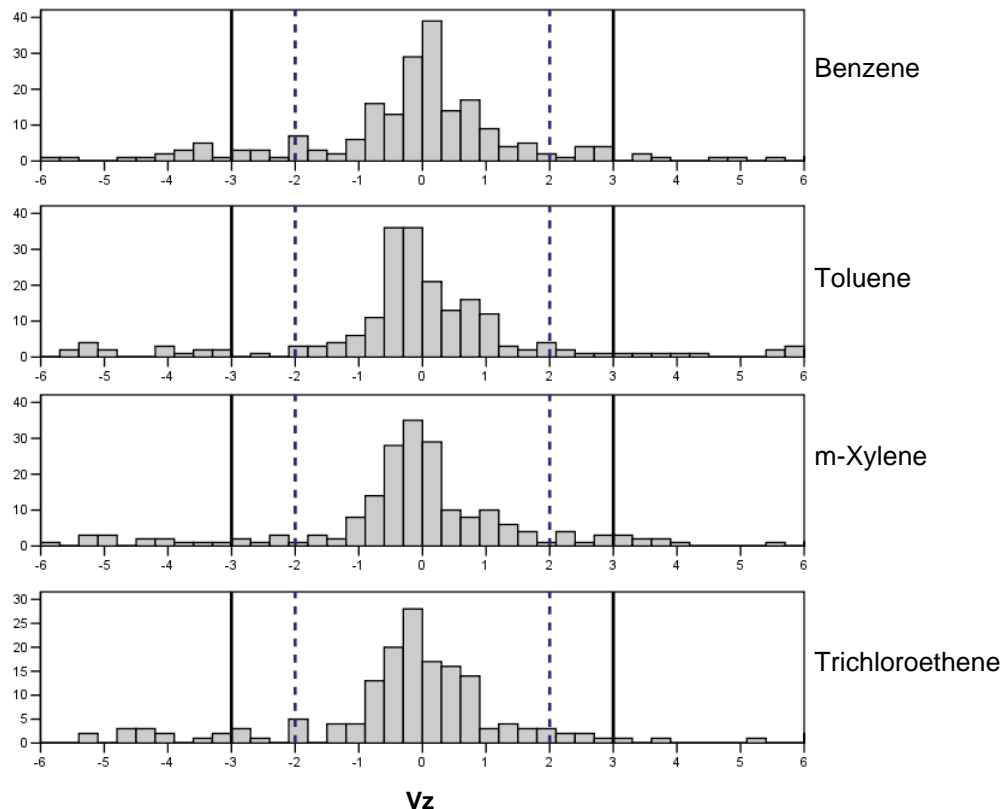


RESULTS REPORT - Round: 55

SAMPLE SUMMARY TABLE

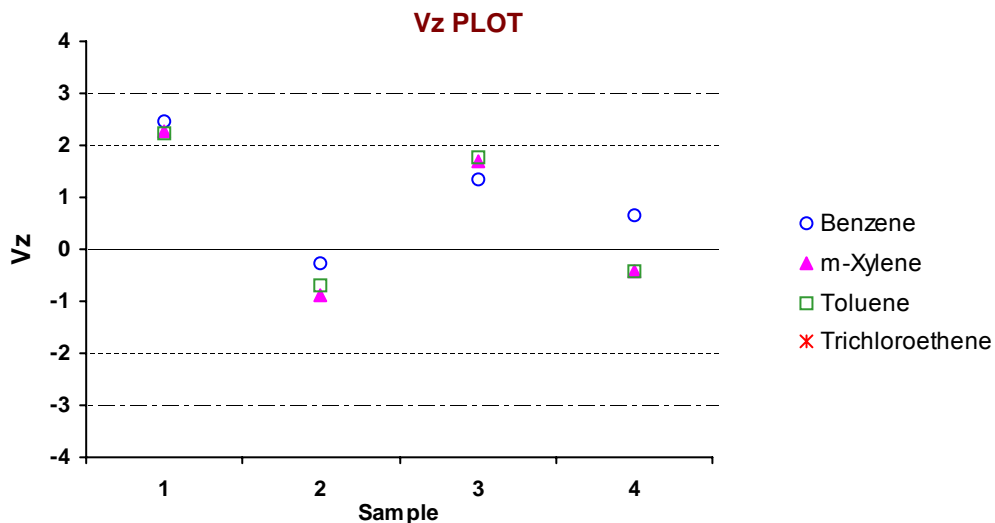
Sample Reference	Analyte	Assigned value Vd (µg)	u (Vd) (µg)	N	Range Vd ± 2σ _p	Range Vd ± 3σ _p
1	Benzene	11,7	0,25	51	9,87 - 13,6	8,93 - 14,6
	Toluene	255	2,8	46	224 - 285	209 - 301
	m-Xylene	3470	57	49	3050 - 3880	2840 - 4090
	Trichloroethene	224	2,9	37	197 - 251	184 - 264
2	Benzene	40,8	0,32	44	34,3 - 47,3	31 - 50,6
	Toluene	646	5,3	43	568 - 723	529 - 762
	m-Xylene	2440	24	46	2150 - 2740	2000 - 2880
	Trichloroethene	872	8,9	35	768 - 977	715 - 1030
3	Benzene	34,6	0,34	45	29,1 - 40,2	26,3 - 43
	Toluene	3100	32	47	2730 - 3480	2550 - 3660
	m-Xylene	570	4,5	42	501 - 638	467 - 672
	Trichloroethene	122	1,1	36	107 - 136	99,9 - 144
4	Benzene	7,89	0,18	47	6,63 - 9,15	5,99 - 9,78
	Toluene	1970	15	45	1730 - 2200	1610 - 2320
	m-Xylene	1130	9,3	43	991 - 1260	924 - 1330
	Trichloroethene	389	4,1	37	342 - 436	319 - 459

RESULTS DISTRIBUTION PLOT



LABORATORY 163 RESULTS

Analyte	Sample Reference	Laboratory result	Assigned Value	Vn	Vz
Benzene	1	14	11,7	1,20	2,46 *
	2	39,9	40,8	0,98	-0,28
	3	38,3	34,6	1,11	1,34
	4	8,3	7,89	1,05	0,65
Toluene	1	289	255	1,13	2,22 *
	2	619	646	0,96	-0,70
	3	3430	3100	1,11	1,77
	4	1920	1970	0,97	-0,42
m-Xylene	1	3940	3470	1,14	2,26 *
	2	2310	2440	0,95	-0,89
	3	628	570	1,10	1,70
	4	1100	1130	0,97	-0,44
Trichloroethene	1		224		
	2		872		
	3		122		
	4		389		

* Questionable Result ($2 < |Vz| < 3$)

N° Results received	Participation (% of response)
12	75

N° Results evaluated	N° Results $ Vz \leq 2$	N° Results $2 < Vz \leq 3$	N° Results $ Vz > 3$
12	9	3	0

PERFORMANCE SUMMARY

ANALYTE	Index of z values (IVz) for your laboratory	Median of Index of z values (IVzM) for all laboratories	Number of laboratories (L)
Benzene	2,08	1,03	56
Toluene	2,19	0,64	55
m-Xylene	2,24	0,70	54
Trichloroethene		0,70	44
Global	2,17	1,19	57



DESCRIPTION OF THE STATISTICAL PROTOCOL

The statistical processing of results is accomplished according to the recommendations given in the ISO 13528:2005 "Statistical methods for use in proficiency testing by interlaboratory comparison".

Sample reference: Last figure indicated on the active charcoal tube label.

Assigned Value, V_d : Robust average of all laboratory results, excluding outliers, calculated according to the Algorithm A laid down in Annex C of the ISO 13528.

Outliers: values more than 3 times the interquartile range from the 25th to the 75th percentiles.

Uncertainty of the assigned value, $u(V_d)$: Calculated according to the following expression:

$$u(V_d) = 1,25 \times s^* / \sqrt{N}$$

where:

s^* is the robust standard deviation calculated in accordance with ISO 13528: 2005

N is the number of values taken for the calculation of the assigned value.

If $u_{V_d} \leq 0,3 \sigma_p$, the uncertainty of the assigned value is negligible and need not to be included in the interpretation of the results.

Standard deviation for proficiency assessment, σ_p : Measure of dispersion used in the evaluation of results. It is determined in accordance with the evolution of the scheme

	CV_p	σ_p
Benzene	8 %	$8 \times V_d / 100 \mu\text{g}$
Other analytes	6 %	$6 \times V_d / 100 \mu\text{g}$

z Value (V_z): Measure of the result deviation regarding its assigned value and it is given in standard deviation units. It is expressed by the following:

$$V_z = (X - V_d) / \sigma_p$$

V_z is not calculated if the uncertainty of the assigned value is not negligible ($u_{V_d} > 0,3 \sigma_p$).

The categorisation of individual results depending on V_z is as follows:

$ V_z < 2$	SATISFACTORY RESULTS
$ V_z > 3$	UNSATISFACTORY RESULTS
$2 < V_z < 3$	QUESTIONABLE RESULTS

Index of z Values (IV_z): Measure of the performance of the laboratories. It is calculated by the expression:

$$IV_z = \sum (V_z)^2 / n, \quad \text{where } n \text{ is the number of values taken for calculation.}$$

IV_z has a chi-square distribution with n degrees of freedom. The lower IV_z , the better laboratory performance.

For each laboratory is given the IV_z per compound, the overall IV_z per round and the median of IV_z 's. The median enables the laboratories to compare their individual performance regarding the whole of participants.