

ISO 12219-11:2025-05 (E)

Interior air of road vehicles - Part 11: Thermal desorption analysis of organic emissions for the characterization on non-metallic materials for vehicles

Contents		Page
Foreword		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Abbreviated terms	2
5	Sampling and storage	3
6	Apparatus and performance characteristics	3
6.1	Apparatus	3
6.2	Performance characteristics	3
7	Analysis	4
7.1	General information on thermal desorption analysis	4
7.2	Cleaning of the desorption tubes	5
7.3	System checks	5
7.3.1	General	5
7.3.2	Check standard solution	6
7.4	Calibration	7
7.4.1	General	7
7.4.2	Calibration solutions	7
7.4.3	Injection of the calibration or check standard	7
7.4.4	Tenax TA® desorption tube	7
7.5	Sample analysis process	7
7.5.1	Photographic documentation of the samples	7
7.5.2	Trimming and weighing of the samples	7
7.5.3	Calibration run, determination of calibration factors (response factor)	8
7.6	Chromatographic evaluation	8
7.6.1	General	8
7.6.2	Integration limits relevant for quantification	9
7.6.3	Peak integration	9
7.6.4	Evaluation for rider peaks and "oil-hills"	9
7.6.5	Calculation of emissions	10
7.6.6	Qualitative analysis	10
7.6.7	Reporting of the analytical results	11
8	Validation parameters	12
8.1	Typical measured value variation for real samples	12
8.2	Quantification limit or linearity of toluene	13
8.3	Variation and recovery of toluene	14
9	Known problems and possible sources of errors	14
9.1	Sample preparation	14
9.2	Difficult samples with non-uniform surface	14
9.3	Samples with higher water content	14
9.4	Lower results when desorption stream is too low	15
9.4.1	General	15

9.4.2	Differences between sample tubes made of metal and glass	15
9.5	Over or under results due to deviations in the thermal desorption temperature	15
9.6	Danger of confusion during the identification of the substance	16
9.7	Exceeding the detector linearity in the case of high emission values	17
Annex A (informative) Materials specific test portions		18
Annex B (informative) Production of paint films for thermal desorption		20
Annex C (informative) Examples for suitable test equipment, test parameters and possible errors ..		22
Annex D (informative) Preparation of standard solutions		32
Bibliography		33