

EMISSIONS IN VEHICLE INTERIOR

TASK

Cars would release foul-smelling and possibly carcinogenic substances.

SOLUTION

Analytik Service Obernburg offers all common tests for emissions in vehicle interiors. These can almost always be assigned to one of the following five groups:

Fogging: Emissions that lead to film formation on surfaces.
Formaldehyde: volatile substance (suspected carcinogenic effect).
Odor: sensory unpleasant emissions.
Total carbon: sum of organic emissions. Individual emissions: Identification and evaluation of emitted substances: laboratory testing with thermodesorption-GC/MS.
Chamber test (SHED or similar)

Industries

Chemicals
 Plastics processing
 Production

Analysis goals

Workplace monitoring
 Emissions from products

Materials

Plastics
 Textiles

Analysis method

Chromatography
 Headspace-GC/FID
 Thermodesorption-GC/MS



The following table shows the assignment of these five areas to the OEM test specifications using the example of some OEMs:

| | BMW | Daimler | Opel | Porsche | VW/Audi |
|-----------|------------|----------------|-------------|----------------|----------------|
| 1 | DIN 75201 | DIN 75201 | GMW 3235 | DIN 75201 | PV 3015 |
| 2 | AA-0061 | VDA 275 | GMW 14236 | VDA 275 | PV 3925 |
| 3 | VDA 270 | VDA 270 | GMW 3205 | VDA 270 | PV 3900 |
| 4 | | | | | PV 3341 |
| 5a | VDA 278 | VDA 278 | GMW 15634 | PPV 8042 | |
| 5b | GS 97014-2 | | | PPV 8041 | PV 3942 |

Which requirements must be met in the respective test depends, among other things, on the respective OEM, the material or the installation location and is often specified in a higher-level delivery specification.

For all questions relating to emissions in the vehicle interior, the Analytik Service Obernburg is your competent partner for all questions relating to vehicle interior emissions:

- Accreditation according to DIN EN ISO/IEC 17025 and therefore compatible with the QA requirements of the automotive industry according to IATF 16949.
- Approved by VW as one of the few laboratories for the complete emission according to VW 50180 = PV 3015, PV 3341, PV 3900, PV 3925.
- Successful evaluation regarding emission tests by Opel/GM according to GMW 3205, GMW 3235, GMW 15634 and GMW 14236.

ADVANTAGES

The services of Analytik Service Obernburg go beyond carrying out the actual emission tests. The staff at our Automotive Test Center will advise you on routine and release tests to ensure that your product is or remains ready for delivery. The chemists in our chromatography group offer you qualified advice on any problematic emissions that may occur and how to eliminate them. In short: a competent service from a single source.

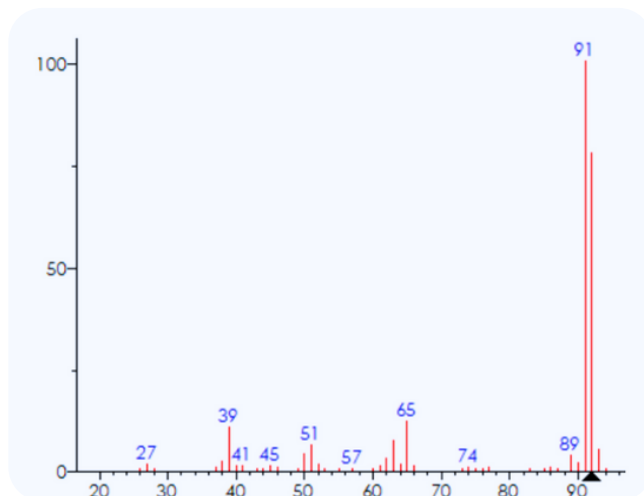
EXAMPLE - SINGLE SUBSTANCE EMISSION ACCORDING TO VDA 278

The illustration shows an example of the equipment set-up for an analysis in accordance with VDA 278 and the characteristic mass spectrum of a volatile substance (toluene, classified as a substance that is probably toxic to reproduction). The OEMs specify maximum values or bans for certain substances, and a comparison with the KMR[1] or GADSL[2] list is also common. In addition, this method also provides total emission values, divided into VOC[3] (Volatile Organic Substances) and the more volatile FOG[4] (not to be confused with the result of a fogging test, see point 1 above).

Thermodesorptions-GC/MS



Mass spectrum of toluene



[1]List of carcinogenic, mutagenic and reprotoxic substances.

[2]Global Automotive Declarable Substance List.

[3]Volatile and semi-volatile substances up to pentacosane.

[4]Substances in the boiling range of alkanes "C14" to "C32", involved in "fogging".