

CEPE Vehicle Refinish Sector

Directive 2004/42/EC of the European Parliament and of the Council on the limitation of emissions of volatile organic compounds due to the use of organic solvents in decorative paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC

Guideline for VOC (Volatile Organic Compounds) Determination of Vehicle Refinishing Products

In addition to an earlier CEPE position paper on the VOC determination for decorative paints and varnishes, there appears to be a need for further clarification with respect to the Vehicle Refinishing products. The CEPE Vehicle Refinishes sector group agrees to the statement made in the earlier position paper that VOC contents may be calculated from the theoretical values of the ingredients, but when there is a need to determine the VOC content practically, the following statements may be helpful.

Annex III of the title directive was amended by Directive 2010/79/EC, making the CEPE guidance in some parts obsolete.

The ISO method 11890-2 indicates in the paragraph "scope" that this method should be applied when the VOC content by mass is between 0.1 and 15 %. For higher VOC contents, the method ISO 11890-1 should be used. In the latest version of the directive is now stated that the "loss of weight" method (ISO 11890-1) may now be used for almost all products and the GLC method (ISO 11890-2) can be used if the VOC content exceeds 15%.

This issue was reviewed by CEPE's VR sector group in 2013. The group agreed on the following recommendations:

- For "preparatory materials" covered by the directive (Annex II B a) containing 0.1 % or less solid content, the sector group recommends to take the density of organic solvent (-mixture) to calculate the VOC value.
- For styrene containing unsaturated polyester putties, which cure on the addition of a peroxide hardener, the ASTM method 2369 is prescribed. Practical experience shows that it is very difficult to get reproducible results with this method. The reaction under practical conditions is very fast, but the speed can be reduced considerably by solvents and oxygen (air). It is generally known that almost all styrene will react during the polymerization, but the test results from the method may not reflect this.

Therefore, the VR sector group suggests that as theoretical VOC value, manufacturers can use 50 % of the actual content of styrene in the formulation. Although this is a very conservative assumption, it will bring all putties well under the limit of 250 g/l.

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