

Eastman **TEXANOL™**
ester alcohol

European VOC regulations

Eastman Texanol™ ester alcohol, the coalescent used and trusted for more than 40 years, is a key component in formulating paints that comply with the European Directive on Volatile Organic Compounds (2004/42/EC).

On January 1, 2007, this directive took effect, limiting the amount of volatile organic compound (VOC) in architectural and automotive refinish coatings.

The directive developed 12 categories of coatings in respect to architectural coatings. Each coating category demands a maximum allowable level of VOC requiring compliance by 1/1/2007 (phase 1), with a further reduction targeted for 1/1/2010 (phase 2).

Each paint must be labelled with the subcategory of the product, the relevant VOC limit, and the actual amount of VOC in g/L, of the product in its ready to use state.

Product produced before 1/1/2007 that does not fulfill the VOC requirements of their product category can be placed on the market for a period of 12 months from the January 1, 2007, date.

Definition of VOC per European Directive 2004/42/EC

The directive defines VOC as "Any organic compound having a boiling point less than or equal to 250°C measured at a standard pressure of 101.3 Kpa."

Eastman Texanol™ ester alcohol is not a VOC as defined by this directive

Texanol has an initial boiling point of 254°C. External laboratories, which operate in compliance with good laboratory practice (GLP), have confirmed the boiling point using test method BS:4591:1971. Eastman Chemical Company has also tested the boiling point by ASTM D1078 numerous times. In all testing, the boiling point of Texanol was >250°C.

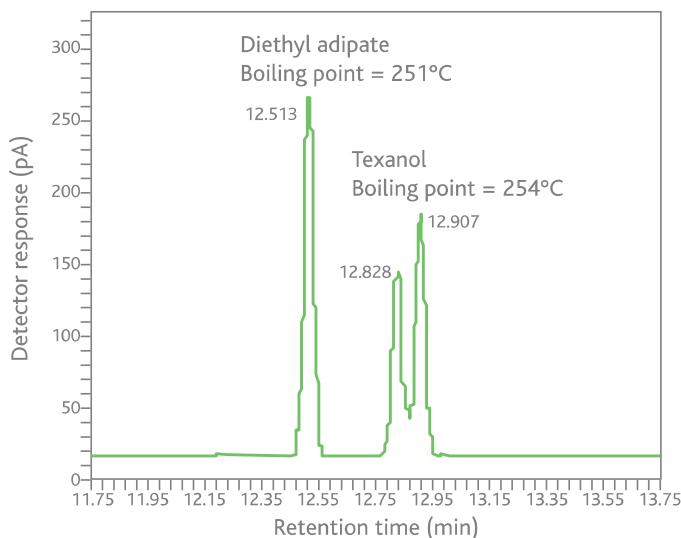
Measurement of VOC in paint

The new directive requires all paints to have their VOC measured. A calculated VOC based on data from raw material suppliers is not acceptable. This directive states the VOC should be determined by the analytical test method ISO 11800-2.

A revised version of ISO 11890-2 (11890-2:2006), which replaced the previous version (11890-2:2000), was published on November 2, 2006. The previous version utilized tetradecane as a boiling point marker and did not specifically define the type of GC column that was to be used. This could have led to a VOC exempt product being incorrectly classified as a VOC.

The new version of ISO 11890-2 changes the internal boiling point marker to diethyl adipate and specifies use of a 60 meter 6% cyanopropyl column. These changes significantly reduce the risk of incorrectly identifying compounds as VOCs. A chromatogram produced according to the new test method is shown in the figure.

Chromatogram



For more information, visit www.eastman.com/coalescents or contact your Eastman representative.



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