



## VOC 2010

**Volatile Organic Compounds (VOCs)** are organic chemical compounds that have high enough vapor pressures under normal conditions to significantly vaporize and enter the atmosphere. A wide range of carbon-based molecules such as aldehydes, ketones and other light hydrocarbons are VOCs. The term is often used in a legal or regulatory context and in such cases the precise definition is a matter of law. These definitions can be contradictory and may contain "loopholes"; e.g. exceptions, exemptions and exclusions. The United States Environmental Protection Agency (EPA) defines a VOC as any organic compound that participates in a photoreaction. Others believe this definition is very broad and vague as organics that are not volatile in the sense that they vaporize under normal conditions can be considered volatile by this EPA definition. The term may refer both to well characterized organic compounds and to mixtures of variable composition.<sup>1</sup>

**VOC 2010** legislation is an EU directive that seeks to reduce the amount of VOCs emitted by the paint industry for environmental and health reasons. VOCs contribute to air pollution and are causally linked to global warming. They also contribute to the creation of ozone in the lower atmosphere which poses a health risk to humans, animals and vegetation. Although the paint industry is by no means the largest contributor to total VOC emissions, there is a responsibility on paint manufacturers to invest effort into reducing VOC emissions.<sup>2</sup>

The new VOC limits will come into force January 1st, 2010 for the UK. From that date forward, non-compliant products can no longer be manufactured; however, during the whole of 2010, non-compliant products can still be sold legally. The final cut-off date from where no more non-compliant products can be sold is January 1st, 2011. Appliers are not affected by any legal deadlines and can use up all of their non-compliant product stocks beyond 2011.<sup>2</sup>

VOC Regulations will go into effect June 18, 2010 for Canada. The intent of the regulations will be to set mandatory limits on the VOC content of automotive refinish coatings. The legislation is a prohibition of sale. Non-compliant products may not be sold or purchased past June 18, 2010.<sup>3</sup>

Various aspects of VOC Regulations went into effect in the USA as early as 1998 and continue to be updated with new regulations thru 2011. Additional information can be found at:

<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&rgn=div5&view=text&node=40:5.0.1.1.7&idno=40>

### **Do filters capture, minimize, or lower VOC emissions?**

The main purpose of any paint booth filter is to capture overspray so that it does not collect within an exhaust system, reducing its performance and creating a significant fire hazard, and to prevent paint mist from spewing from the stack and creating costly damage to the building, neighboring structures and motor vehicles.<sup>4</sup>

Although overspray may contain VOC, once the overspray is collected by the filter, much of the VOC will vaporize or evaporate in the rapidly moving air flow. As more paint overspray is deposited onto the filter media, it will dramatically slow down the loss of VOC from lower layers of overspray, but the high-velocity air movement will cause most of the VOC to flash off the collected paint.<sup>4</sup>

<sup>1</sup>[http://en.wikipedia.org/wiki/Volatile\\_organic\\_compounds](http://en.wikipedia.org/wiki/Volatile_organic_compounds),

<sup>2</sup> [http://www.icpaints.co.uk/products/2010/voc\\_information.jsp](http://www.icpaints.co.uk/products/2010/voc_information.jsp),

<sup>3</sup> <http://www.voccompliance.com/faq.asp#1>

<sup>4</sup> [http://www.pfonline.com/articles/clinics/0508cl\\_env1.html](http://www.pfonline.com/articles/clinics/0508cl_env1.html)