

## Guide to VOC's for Paints

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**VOC** stands for 'Volatile Organic Compound', more commonly understood for paints as meaning 'solvent'.

The VOC content of paint is important as VOC's contribute to atmospheric pollution and possibly global warming, and the VOC content of paints is regulated. The VOC content of paints and must be declared by paint manufacturers to the user, and by users to their Local Authority.

The VOC (or solvent) content of a paint is usually expressed in gm/lt, or grams per litre, meaning grams of solvent per litre of wet paint as supplied.

For solvent based paints this is a fairly straightforward calculation. For water based paints it becomes more difficult.

### VOC of Water Based Paints

It is often thought that water based paints contain no solvent. However, most water based paints do actually contain some solvent, which might be necessary for a variety of technical reasons. This VOC content of water based paints can be expressed in two ways: 'without water' and 'including water'.

To conform with current environmental legislation, the VOC of water based paints should be expressed **without water**. This is sometimes considered to give an artificially high level of VOC, so we also quote on Product Data Sheets the actual solvent content of the paint, including water, which might be considered more realistic.

**Let's take an example** of a water based paint that contains 100grams of VOC (solvent) per litre of wet paint, as supplied in the can. To make things easy, let's also assume that 50% by volume of the paint as supplied is water. The VOC content calculated in the two different ways would be as follows:

#### VOC without water:

First, we have to take the amount of water out of the calculation. If there is 50% water, and there is 100gm of VOC in a full litre including the water, then if we take the water away, we have 100gm of VOC now in only 50% of the original volume without the water, or ½ a litre.

The VOC without water is then 100gm in ½ litre, or 200gm/lt.

#### VOC including water:

In our example we have 100gm of VOC in a litre of paint as supplied. Leaving the water in the calculation, the VOC content is then simply 100gm/lt.

The VOC without water will always be higher (sometimes a lot higher) than the VOC including water.

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