

What are volatile organic compounds (VOCs)?

You may see words like 'low VOC', 'low emission', 'no odour' or 'no VOCs' on product labels such as paints but what does this actually mean?

VOC is short for volatile organic compounds, which are chemical compounds that have high enough vapour pressures under normal conditions to significantly vaporise and enter the air. VOCs that escape into the air contribute to air pollution outdoors and inside our homes. Emissions and odour are sometimes used instead of VOC but are often used to mean the same thing.

There are a wide range of carbon-based molecules (hence 'organic') that are considered VOCs such as aldehydes, ketones, and hydrocarbons, but there is no universally accepted definition or comprehensive list of VOCs. Not all organic compounds are volatile either as many plastics (polymers) and other large molecules may not have significant vapour pressure at room temperatures.

The US Environmental Protection Agency has found concentrations of VOCs in indoor air to be 2 to 5 times greater than in outdoor air. During certain activities indoor levels of VOCs may reach 1,000 times that of the outside air. Studies carried out in Australia by the CSIRO have found similar results. What types of products contain VOCs?

VOCs are emitted from numerous household products such as cleaning agents, paints, finishes, paint thinners and strippers, carpet backing, adhesives, cosmetics and aerosols. Is it low VOC?

As a guide for paints and finishes the Australian Paint Approval Scheme specifies that 'low odour' and 'low environmental impact' means a maximum of 5g/L of VOCs in untinted wet paint. Note that tints themselves contain high levels of VOCs.

The Australian Ecolabelling Association standards for VOCs in indoor paints is <20g/L which includes the VOCs from tints. High VOC paints can contain anything from 80-100g/L.

See www.apas.gov.au and www.aela.org.au