



Building a **SUSTAINABLE** future together

INNOVATIONS IN INDOOR AIR QUALITY AND COMFORT: HOW TO IDENTIFY LOW VOC PRODUCTS

We spend an average of 90% of our lives in closed environments and with even more time spent indoors due to Covid-19, it is important to ensure the air we breathe is clean. A key indicator of indoor air hygiene is the concentration of volatile organic compounds (VOC) in the air.

At this stage, Australia does not have regulatory requirements for VOC concentration in indoor environments, yet, it is still important to understand their risks and how to identify them.

WHAT ARE VOCs?

VOCs are a group of chemicals that can be found in building and maintenance products around the home, such as paint, cleaning products, adhesives, carpet, and wood products. Chemicals in these products can easily evaporate into the air we breathe and adversely impact our health and overall wellbeing.

WHY ARE THEY HARMFUL TO OUR HEALTH?

Exposure to poor indoor air quality can lead to both short and long-term health symptoms, such as skin, eye, and throat irritation, as well as headaches and asthma [1,2]. It is important to understand the risk VOC chemicals can have on our health and wellbeing and source products with low concentrations of VOC.

HOW ARE VOLATILE ORGANIC COMPOUNDS MEASURED?

There are two main recognised methods for evaluating VOC in chemical products, testing for *VOC content* and testing for *VOC emission*. The first measures the amount of VOC in the actual product, whilst the second measures the amount and type of VOC released by the product into the air.

Mapei has 31 leading research facilities around the world, including one in Queensland, Australia. Quality, safety, and innovation are at the heart of everything we do; that is why, over the past 20 years, we have committed to eliminating chemicals with high levels of VOC from our products to protect the health of both the installer and end user. Mapei have testing facilities to measure both VOC content and VOC emission of our products (Images 1 & 2).



Image 1 - Measuring VOC Content



Image 1 - VOC Emission Testing Chamber, Mapei R&D Lab, Milan

HOW CAN LOW VOC PRODUCTS SUPPORT PROJECTS?

Green Star by the Green Building Council of Australia is the leading rating system for sustainable buildings. Mapei products formulated to contain low VOC can contribute towards satisfying the “Indoor Pollutants” credit within the [Interiors](#) and [Design & As Built](#) rating schemes, which stipulate the *VOC content* limit for products to be used on site.

Other Green Building rating tools, including the newly released Green Star [Buildings](#), offers a credit based on VOC emission, which is considered to be a more accurate method of assessing air quality for protecting users and occupants’ health. Therefore, it is important for products to be also tested for VOC emission.

HOW TO IDENTIFY MAPEI LOW VOC PRODUCTS

The VOC content of all Mapei products can be found on our Safety Data Sheet (SDS), which can be downloaded from each product page on our website and can be compared with the Green Star limits. For VOC emissions, Mapei’s products have third party certification. Some examples are GEV-EMICODE EC1 and EC1 Plus ratings (one of the strictest testing protocols for VOC emissions), Blue Angel the German ecolabel, or M1 emissions class for building materials.



Mapei is committed to the health and wellbeing of our customers and end users and continue to give focus to Sustainability. You can read a copy of our latest [Sustainability Report](#) to find out more.

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1. <https://www.health.state.mn.us/communities/environment/air/toxins/voc.htm>
2. <https://www.environment.gov.au/protection/air-quality/indoor-air>