

Finishing touch

Take the headache out of painting with some low-toxic alternatives

It is an exciting moment when you finally open the door to your recently completed home or renovation. After months, or even years, of planning and building you finally get to move into your new living space with that unmistakable smell of “new”. But you may be immersing yourself into a toxic mix of chemicals that could be dangerous to your health. According to a study by the CSIRO, the indoor air quality of new Australian homes may be up to 20 times the maximum allowable limits of toxicity and some harmful emissions can last for years. One of the main sources of toxic air quality is paint.

The health impact of substances found in paint is nothing new. Up to the 1950s, lead was the main white pigment base used in paints. As awareness of the dangers of lead blood poisoning grew the recommended amount of lead in domestic paint declined from 50 per cent in the fifties, to 1 per cent in 1965. By 1992 it reduced to 0.25 per cent, and in 1997 it was further reduced to 0.1 per cent.

While paints nowadays do not contain high levels of lead, some do contain various harmful substances and volatile organic compounds (VOCs) which are added to paints to improve their performance and to add colour. VOCs are chemicals containing carbon that evaporate into the atmosphere at room temperature. VOCs slowly make their way to the surface and ‘offgas’ into the surrounding air.

The CSIRO identified 27 airborne toxins in homes more than a year after they were constructed. These included the carcinogens benzene, formaldehyde and styrene, and a cocktail of methanol, ethanol, acetone, toluene, dichlorobenzene plus a number of less well-known toxics, most of which are found in paints. Exposure to VOCs can worsen asthma symptoms; and cause nose, skin, and eye irritation; headaches, nausea, convulsions, and dizziness; respiratory problems; nerve damage and, in some cases, cancer, liver and kidney disease.

Non-toxic options

In recent years many manufacturers have reduced the amount of VOCs in paints and launched “low-VOC” ranges that comply with limits set by the Australian Paint Approval Scheme (APAS). However, according to Daniel Wurm from GreenPainters, the maximum limits set by the APAS are not as low as the Green Building Council of Australia’s standards and may apply only to part of the product. “Consumers need to be careful as the “low-VOC” claim on some paint cans applies only to the base product and not the tints that are used to colour the paint which may contain high levels of VOCs,” says Daniel.

“The best way people can be reassured that a synthetic paint product is environmentally-preferable and has low-toxicity is to check to

see if it has been independently certified by an eco label.”

“Here in Australia manufacturers can receive accreditation from Good Environmental Choice Australia (GECA), a not for profit national environmental research and certification organisation based in Canberra. A number of products available in Australia carry the EU Flower, Blue Angel or Green Seal label, which are internationally recognised eco-labelling programs,” says Daniel.

Daniel recommends that rather than using petrochemical-based paints, consumers should consider products that are plant or mineral-based. Commonly called “natural paints”, they are manufactured using mostly renewable or highly abundant resources, such as clay, linseed oil, citrus oil and lime. While they cost a little bit more and are not common in Australia, plant and mineral based paints make up a large proportion of the European market. “As demand for ‘natural paints’ rises in the next few years from people building sustainable homes, we expect natural paints to become increasingly competitive with synthetic-based coatings,” says Daniel. While not all natural paints are VOC-free—a common ingredient such as citrus oil is a VOC—they are considered less hazardous than those that are petrochemical-based.



Lifecycle

While checking the VOC levels of the base and tint products in paints to ensure they are at an acceptable level is the first step, there are many other environmental and health lifecycle issues that need to be considered. Ecospecifier, an independent database of environmentally preferable products, verifies the environmental and health claims of products and also looks in detail at issues such as toxicity levels, greenhouse gas emissions throughout the lifecycle, resource use and any negative impact on biodiversity. For example, says David Baggs, Ecospecifier Technical Director, titanium dioxide is a major constituent in paint but is sourced from sand mining, an extremely ecologically damaging process affecting sensitive coastal dune systems.

“While there has not been any direct lifecycle comparisons of natural and synthetic paints, at a fundamental level it would be better to use a product that comes from an infinite agricultural source than finite petrochemicals,” says David.

Many manufacturers now look at ways they can minimise the impact on the environment by participating in energy-efficiency programs, reducing waste during processing, recyclable packaging and participating in end of use recycling programs. Householders can also play their part by ensuring the proper disposal of unwanted paint. Most local councils provide safe paint recycling facilities so that old cans of paint are kept out of landfill.

For more information:

GreenPainters

www.greenpainters.com.au

Australian Ecolabelling Association

www.aela.org.au

Ecospecifier

www.ecospecifier.org

Master Painters Association

www.mpa.org.au

Your Home

www.yourhome.gov.au

Renovating safely

The most common cause of lead poisoning in young children nowadays is from exposure to lead paint dust when an old house is being renovated. Undisturbed, the lead paint is not a hazard, but removal by blasting, burning, scraping, sanding and using power tools creates the most serious dangers because the particles are small enough to be inhaled or deposited in furnishings or carpet, making complete removal extremely difficult.

There are a number of precautions that you can take if you are renovating or doing

maintenance that could disturb old paint. Test the paint to check if it contains lead; you can buy testers from a hardware shop. Wear protective clothing including overalls, hat and gloves and a respirator. Avoid dry sanding, dry scraping or using an ordinary power sander and dispose of waste safely. The Master Painters Association provides a list of accredited painting professionals who have undergone training in lead management techniques.

www.environment.gov.au/atmosphere/airquality/publications/housepaint.html

www.mpa.com.au

Painting tips

- Choose plant-based or mineral-based paints.
- Choose zero or low-VOC paints.
- Choose paints that have been independently certified.
- Dispose of leftover, unwanted paints responsibly.
- Test the lead content of paint in old houses before renovating.

