

A close-up photograph of a paintbrush dripping vibrant green paint into a paint can. The brush is held vertically, and several thick streams of paint are falling from its bristles into the can below. The paint in the can is also a bright green color. The background is a soft, out-of-focus light color.

PAINING IS IMPORTANT TO BUILDING SUSTAINABLY BECAUSE IT PROTECTS AND PRESERVES THE BUILDING AND PROLONGS ITS LIFE. HOWEVER, PAINTS, LACQUERS AND VARNISHES OFTEN CONTAIN CHEMICALS THAT ARE HARMFUL TO YOUR HEALTH. FORTUNATELY, THERE ARE ALTERNATIVES.

PAINING AUSTRALIA **GREEN**

words KIRSTY MCKENZIE photography GETTY IMAGES & ISTOCK

House painter Daniel Wurm decided it was time for a change when his work was giving him a headache. Literally. At the end of most days painting even a well-ventilated room, he went home with a splitting head and it wasn't exactly rocket science to work out that the culprit might well be the chemicals in the paints he was using.

"Regular paints use solvents that give off low-level toxic fumes called volatile organic compounds (VOCs)," he explains. "These can cause breathing difficulties, headaches and skin irritations. Painted surfaces can continue 'off-gassing' these fumes for months after painting. The good news is that many paint companies now offer healthier low-emission (low-VOC) products and paints that contain all-natural ingredients that have no emissions at all."

Daniel was so impressed with the difference switching to low-VOC paints made to his health that in 2007 he established GreenPainters, a national not-for-profit organisation that has become the painting industry's peak sustainability initiative. To date, 40 painters who care about the environment and the impact their trade is having on it have joined the association. More than half of them have become accredited GreenPainters, which means they have completed the necessary certification courses covering all levels of their business from choosing the most environmentally friendly and best paints for the job to correct application and clean-up procedures.

As the sole Australian distributor for the German natural paint company Livos (www.livos.com.au), Angela Petrucci advises consumers to be ultra-cautious when it comes to selecting paint and always check the contents on the packaging before purchase.

"Livost paints are all made according to Rudolf Steiner principles using renewable, plant-based materials," she says. "Livost declares all the ingredients on the cans and uses only food-grade quality solvents, which include orange and linseed oils."

She adds that it's unfortunately not just a simple matter of buying any- or low-VOC paint if you're not

100 per cent sure of the contents. "Every one knows water and oil don't mix," she explains. "So you have to wonder what polluting chemicals have to be added to some water-borne paints and varnishes to replace the functions performed by synthetic solvents. You also should be aware that just because a paint doesn't smell it doesn't mean it's not off-gassing. There are chemicals that can be added to reduce the odour of paint. You also should consider the effect of repeated coatings, which can multiply the VOCs emitted. Does a smaller volume of a solvent-based coating provide better covering than multiple coats of a paint with a water-based solvent?"

Generally speaking, however, Angela says 90 per cent of VOCs emitted by paints based on natural solvents dissipate within one hour of application, whereas paints with petrochemical-based solvents can continue to off-gas for weeks after a single application.

"Unfortunately, you can get used to the smell to the point where you no longer notice it," she says. "The responsibility really comes back to the consumer to find out what ingredients are in the paint, how durable it is and how often you'll need to reapply it. The

GENERALLY SPEAKING, 90 PER CENT OF VOLATILE ORGANIC COMPOUNDS EMITTED BY PAINTS BASED ON NATURAL SOLVENTS DISSIPATE WITHIN ONE HOUR OF APPLICATION, WHERE AS PAINTS WITH PETROCHEMICAL-BASED SOLVENTS CONTINUE TO OFF-GAS FOR WEEKS AFTER APPLICATION.

most important other aspect you need to check is that the paint is vapour-permeable so you don't get the plastic bag effect of trapped moisture, which causes mould."

Meanwhile, in an Australian first, a company called Ecolour (www.ecolour.com.au) produces a synthetic paint that produces no VOCs or other toxins. Ecolour turns recycled and re-refined waste engine oil into a water-based paint. The modified oil acts as a preservative and provides durability, superior coverage and smooth application qualities to the paint. Because Ecolour uses recycled oil which would otherwise be used as a toxic burner fuel, the

INDOOR AIR QUALITY

Indoor air quality (IAQ) has become an increasing concern for building designers and specifiers. The CSIRO estimates that indoor air pollution costs the Australian community \$12 billion a year in lost productivity due to illness it causes directly or indirectly. The CSIRO also estimates that in recently renovated buildings, about 70 per cent of indoor pollutants emanate from the paints used.

company is certified carbon neutral. Ecolour is scrubbable, can be tinted to any colour and the range includes interior, exterior and timber finishes. The products are price competitive and can be shipped anywhere in Australia for a maximum of \$20 per order. A zero-VOC artists' paint range and decking oil are in the pipeline.

REFLECTIVE COATINGS

These days, no one would dispute that buildings that are passive solar designed are the best performers in weather extremes. For the past 17 years, Adelaide-based Astec Paints (www.astecpaints.com.au) has been producing its solar-reflective Energy Star coatings, which further prevent

unwanted solar radiation from penetrating a building's envelope.

According to Astec's Victorian distributor Barry Battiscombe, there's no great secret to the product's success beyond tiny ceramic balls that are mixed into the paint to reflect away heat before it enters the building. "Once applied to the roof or walls of a building, Energy Star blocks up to 90 per cent of solar radiation from entering the building," he explains. "This will lower the internal temperature of the building by somewhere between seven and 10 degrees Celsius and, of course, save the energy needed to cool the building, reducing your electricity bill,

and carbon dioxide emissions as well as your carbon footprint."

Barry adds that Energy Star products can reduce peak cooling requirements by 10 to 15 per cent and can save up to 50 per cent on energy bills. They are available in 44 colours, come with a 15-year warranty, have a 30-year life and reduce thermal shock on the building's substrate.

"Our products may cost 10 per cent more than regular acrylic paints," Barry says. "But look at the long-term savings. That's why the Energy Star range is the only painting company in Australia to have received the Building Codes of Australia Code Mark certification."

GREEN ACCESSORIES

Australian company Sequence (www.sequence.com.au) has developed a range of products that make the painting process greener. They include natural roller covers made from lamb skin, which are most effective at applying paint efficiently and smoothly, and biodegradable paint trays made from 100 per cent



recycled cardboard. The trays allow you to peel off dried acrylic paint so they can be re-used or they can be composted if you use natural paints.

Sequence also manufactures a water-operated roller cleaner and a zip-lock roller cover bag, which provides a great way to store rollers short-term without wasteful and time-consuming clean up.

RESPONSIBLE CLEAN-UP

Most paints contain chemicals that



From above left:

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may be harmful if they find their way into the sewer or stormwater system where they will contaminate our waterways and harm plants and animals. Daniel Wurm says the first step to responsible clean-up is to buy the right amount of paint in the first place. "There are millions of litres of unused paints in people's garages," he says. "So seek the advice of your paint supplier before you buy

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IN FOCUS

that extra can. Better still, hire an accredited GreenPainter who will not only know how much paint you need but also apply it efficiently."

His other tips are:

- ◆ Even if you're using the most eco-friendly paint, never clean brushes or rinse paint containers into a street gutter or drain.
- ◆ When you have finished working, be sure to squeeze excess paint back into the can.
- ◆ Most GreenPainters use new equipment developed by Sunshine Coast-based company Reclaimer Industries that separates the chemicals from the water so it can be recycled or safely discharged. However, for DIY painters, Daniel recommends the "three-can method". Wash brushes and rollers in one empty can filled with water. Let the solids settle overnight, then clear off the water into another can, wash the brushes again and let the solids settle. Tip the water into the third can and the solids into the first can and repeat the process. Dispose of the water on a garden or grassed

area. Wipe out the sludge in the first can on a rag, leave it to dry and dispose of it in the garbage

- ◆ Seal the lid securely and store the paint upside-down to create an airtight seal around the lid. Keep leftover paint for future touch-ups so you don't have to repaint the entire

surface to cover up a small mark.

- ◆ Check with your local council for your closest hazardous waste depot for recycling unwanted leftover paint and paint cans.
- ◆ Find a GreenPainter: For more information check out the website, www.greenpainters.com.au

Natural paints

The manufacture of traditional paints using petrochemical-based solvents is energy-intensive. The production of one tonne of acrylic solvent-based paint can produce 10 to 30 tonnes of toxic waste, much of which is non-degradable. Natural paints use renewable resources, including plant-derived solvents such as orange, eucalyptus and linseed oils, finely ground minerals, earth pigments, vegetable matter and milk (casein). They allow the substrate to breathe and are anti-static (avoiding dust).

On the downside, they don't form a waterproof barrier so are not as stain-resistant as acrylic paints. However, they generally can be "patched up" by painting over a small area, avoiding the need to repaint the entire wall. Natural paints' permeability discourages mould growth and improves air quality. Mineral-based paints such as lime or clay paints bond with the substrate, which means they become a sacrificial surface. They gradually wear away until it's time to recoat. However, they don't crack, peel or blister, so they offer outstanding durability for exterior masonry surfaces.



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