

Any Colour as long as it's Green!



Tired of suffering from the fumes of his trade, painting, Daniel wondered if there was a better way, and discovered natural paints. Now his firm is developing professional courses in natural coating technology.

by Daniel Wurm

BYRON BAY, NEW SOUTH WALES

NEXT time you redecorate or build it is worth considering the environmental impacts of the paints you choose. Painting is still an environmentally-friendly thing to do, as it preserves and protects assets, but it has to be done in a way that lessens its impact on natural resources.

I started researching paints and their effect on the environment about five years ago. Being a professional painter for 10 years at the time, I used to think about what my occupation was doing to my health. I knew I was getting headaches regularly, and would have difficulty breathing after using certain paints. I decided I would either get re-trained or find better products. I eventually discovered that there are many manufacturers who were making safer alternatives, such as plant-based and mineral-based paints.

One day I went down to the closest natural paint retailer and asked to try some of their products. It turned out that they were looking for a painter to use the paints regularly, so I decided I would give it a go. I've been hooked ever since.

Paints, lacquers and varnishes are among the chemical everyday products that have a particularly distinct effect on environment and health. Solvents, monomers, softening agents, and biocides are only some

of the components of these products that present the potential for serious ecological and toxicological risks during their production, manufacture, application, use, and ultimate disposal.

Paints are a major source of indoor air pollution. Conventional paints can make indoor air a chemical cocktail, even long after they have dried, as they continue to release petroleum-based solvents, called Volatile Organic Compounds (VOCs) as they cure. It is estimated that each year in Australia more than 80 000 tonnes of VOCs are released into the atmosphere, with the paint industry contributing significantly to this amount. VOCs from solvent and paint emissions contribute to harmful ozone formation and peroxyacetyl nitrate.

Conventional paint emissions

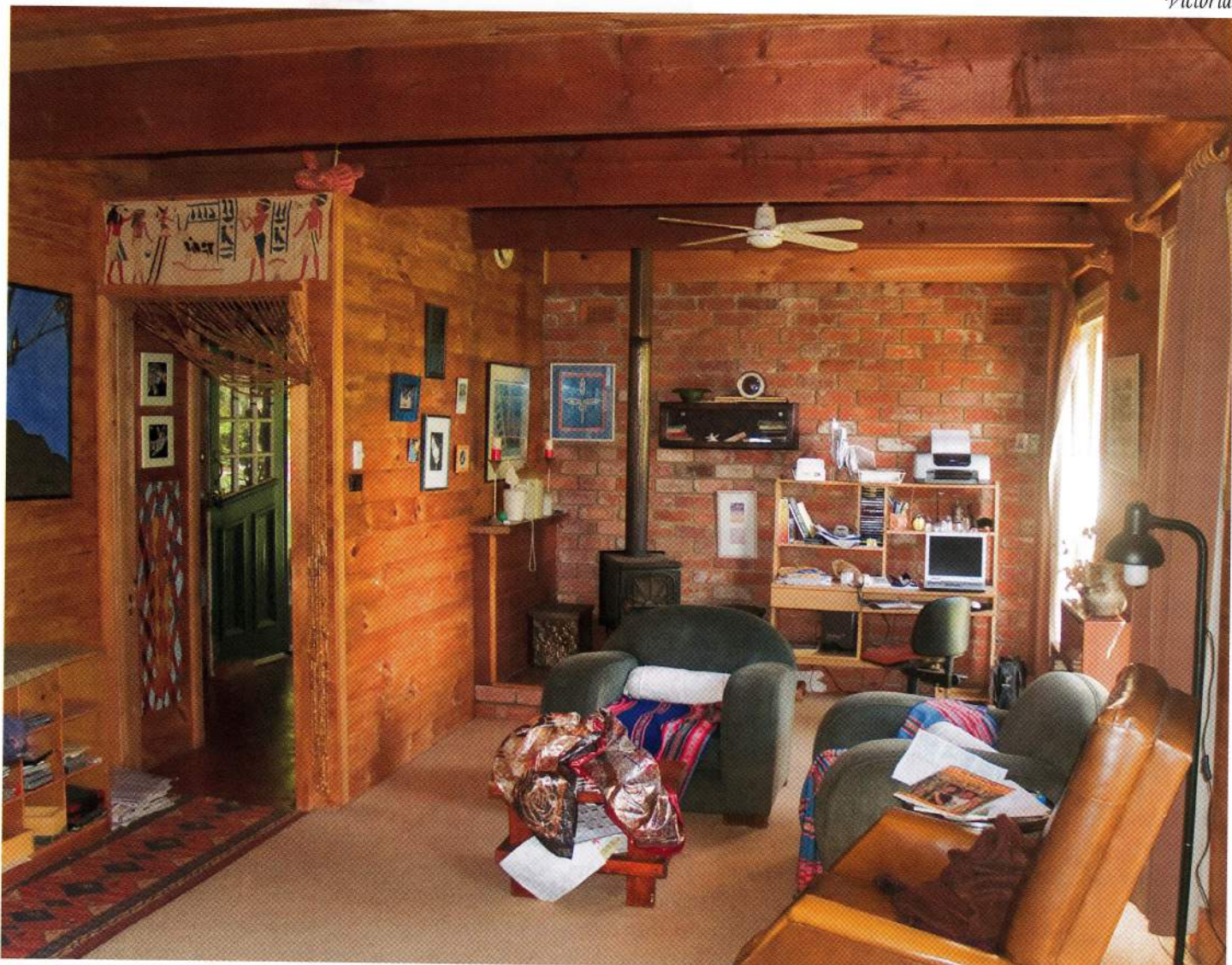
According to the Master Painters Association, ozone from paint emissions 'irritates eyes, nose, throat and lungs; reduces breathing capacity even in healthy adults and children; increases susceptibility to infection, hospital visits and admissions; and causes damage estimated to cost millions of dollars per year to crops and buildings.'

Other chemicals in conventional paints include glycols, toluene, hydrocarbons, xylene, and ammonia. Mineral turpentine (used as a thinner and solvent) may contain up to 20 per cent benzene, which is a confirmed

carcinogen and mutagen in chronically-exposed workers. Acrylic paints are much safer than oil-based paints because they have less hydrocarbon solvents. However, acrylic paints typically include a range of biocides to protect the latex, which can include arsenic disulphide, phenol, copper, formaldehyde, carbamates, permethrin and quaternary ammonium compounds. Having these chemicals coating our walls and in the air we breathe is surely not desirable.

Another problem with synthetic paints is post-application wastage and disposal. The petrochemical paints that currently dominate the market are predominantly derived from oil, a non-renewable resource. Waste needs to be specially treated to avoid adverse environmental impacts. It has been estimated that water-soluble gloss paints require dilution of 40 million to one to render their entry to the sewerage system harmless.

The benefits of choosing low or zero VOC paints are obvious — apart from being better for the environment, there are little or no fumes when painting. The most sustainable coatings are plant- and mineral-based paints, which are made using naturally occurring ingredients, and therefore do not require high levels of processing. Many of the ingredients are made from renewable resources, such as linseed oil, and citrus oil. Natural paints use plant-derived solvents and binders instead of synthetic ones, so usually



A comfortable living area, with the banana-shaped lining boards coming up well.

the tiles in the bathroom were grouted.

The house was partially carpeted, and the remaining exposed slab received another coat of paint. Flyscreen doors went on and home life started to be relatively comfortable.

Eventually the coverings over the external doors evolved into proper verandas. As well as somewhere shady to sit, somewhere for the dogs to live and somewhere to pot up plants, the veranda roof is intended to be a home for solar panels. One day. Soon I hope.

Wandering around after living there for about 15 years, I noticed the infill planking under the fascia board was hanging loose on the north side of the house. Curious I went to check the south wall. It had NEVER been filled in. No wonder the house was always

so cold. There was a 36-foot-long two-inch-wide gap between the wall and the roof. Infill went immediately under both north and south walls, and for good measure, the gables on the east and west sides of the house were filled as well.

A grey water system was installed. So many rocks came out of the trenches for the associated pipery that the backhoe operator would not ... da de dah — see above. No problem, I needed more rocks anyway. Over the years, the rock walls had been raided many times for various reasons, so they all got a good repair job.

Flywire went on some of the windows and the house became truly palatial.

I've worked part time or casual in more than fifteen different jobs, and full time only

once since I've lived here.

There's hot and cold running water, it's warm in winter and cool in summer, the flies don't get in, much anyway, and there's no mortgage.

Maintenance started years ago. Various bits and pieces have had to be repaired and it's been painted twice. It needs painting again now. It seems a bit tough when there are still bits and pieces of building to be completed.

Except for the solar panels, there is no hurry though. If the building ever gets finished, I'll always have renovating to look forward to.

• Photos on these pages by Dogsbod Publishing.



Left: Using natural paints eliminates paint-induced headaches and breathing difficulties.

have VOC levels of between zero and one per cent. Ingredients used are printed on the label, or on a technical data sheet, which can be consulted to establish whether allergic reactions are a risk.

Using these paints results in better health outcomes, and uses renewable resources for sustainable living. Some of the paints are even certified carbon-neutral. Natural paints account for nine per cent of paint sales in Europe.

Natural and mineral-based wall paints do not form a waterproof film on the substrate. This means they are less resistant to stains, and are less likely to peel or blister. Because they are water-vapour-permeable, they allow better regulation of humidity and moisture levels in the house. They also are usually fire-resistant and have natural anti-fungal and antiseptic qualities.

I find that it is easier to touch-up natural paints when they do get marked. Instead of scrubbing your walls with some poisonous chemical, gently wipe them with clean water, and touch them up with some of the excess paint you have kept. The matt finish will allow you to do small areas without having to do the whole wall.

Natural timber oils

There are also gloss enamels made from natural ingredients, and you can't beat natural timber oils for their ability to enhance the natural look of timber. They aren't as glossy as synthetic polyurethanes, but they actually reduce maintenance in the long run because scratches and marks can easily be repaired without having to sand the coating back before refinishing.

With climate change impacting on our water resources, it is important that wastewater can be reused. Water used to clean up after using natural paints can be used directly on gardens, without harmful effects to any plants, or groundwater contamination.

You can have almost any colour as long as it's 'green!' Some of the projects that have been finished with natural coatings have won awards, and several have featured in architectural journals. Since establishing GreenPainters, a not-for-profit program that aims to raise awareness of sustainable paints and painting practices, the concept of 'green' technology has gained wide acceptance. Our website provides objective summaries of sustainable paints and coatings, and information to help builders and DIYers achieve

the look they want while being eco-sensitive and health-conscious. In association with Sustainability Victoria we are currently developing a nationally accredited training course that will train painting contractors to use natural products and change their attitudes to sustainability.

Update

There are several new natural paint products coming onto the Australian market, including paints made from collagen extracted from eggshell waste, and Australia's first locally-made clay paint range — Rockcote. GreenPainters, in collaboration with Sustainability Victoria and Holmesglen TAFE, has developed the Accredited Course in Sustainable Painting Practices, which is a formal qualification for professional painters interested in improving their environmental impact. It is currently running in Victoria, but will be available Australia-wide soon.

In response to the huge increase and interest in natural paint products, we are also developing a Course in Natural Coatings, which will be a short course on natural paint theory and application techniques. It is being supported by several leading natural paint manufacturers and will be available for painters, DIYers and anyone interested in the subject. We hope to run it at learning centres around Australia. Please contact us to register using the web site.

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