Greener Paint

The days of lead paint are long gone, but conventional paint can still contain nasties. Sarah Robertson explores the options for making your next painting project more environmentally friendly.

WORDS Sarah Robertson

YOU WALK INTO A NEW HOME AND THE smell of freshly paint assaults you before you've even had time to admire the newly-coated walls. The deep red feature wall and off-white facing walls of the kitchen might look fantastic, but that lingering paint smell often may signify coatings that are harmful to your health and to the environment.

Paint is made of four key components: pigments, binders, solvents, and fillers or additives. Pigments, which give paint its colour, and binders, which form its protective film, are the solid components of paint. Solvents are the liquid component that allows for easy application, while additives are included in small quantities to bring other required properties to the paint.

Conventional paints contain volatile organic compounds (VOCs) that have been linked to health problems and air pollution, and whose deleterious effects are recognised by government bodies like CSIRO. More on VOCs below.

Also, producing conventional paints is resource-intensive. According to GreenPainters, an Australian not-for-profit promoting the use of sustainable paint products, the production of one tonne of solvent-based paint can produce as much as ten to 30 tonnes of toxic waste.

So if you wish to protect the health of your family or housemates as well as the environment, what alternatives are available, and how do you choose the best product for your needs?

VOCS

From a health perspective, the first step on the path to greener paints is to use low VOC paints. Under Green Building Council of Australia (GBCA) standards, low VOC paints are defined as ready-to-use paints with VOC levels under 75g per litre.

A VOC is any organic substance with a low boiling temperature – between 50 and 260 degrees Celsius, according to the World Health Organization. Once a wall is painted, the solvent evaporates, drying the paint. If the paint contains VOCs, it continues to out-gas potentially harmful toxins as it dries, and can continue to do so long after the paint brush and dropsheet have been stored away.

Outdoors, VOCs are significant contributors to smog: in Australia, it's estimated that over 60,000 tonnes of man-made VOCs are released into the atmosphere every year. Indoors, VOCs have been linked to different health problems, with chronic exposure at low levels having the potential to cause eye, nose and throat irritation, headaches, loss of coordination and nausea among other more daunting illnesses.

GreenPainters has outlined typical VOC levels in different paints. In petrochemical solvent-based paints, VOC levels can be as high as 350-450 grams per litre and may include benzene, toluene, xylene, glycol ether, phenol, formaldehyde and methylene chloride – all of which are carcinogens. Water-based paints typically have VOC levels of 30-80 grams per litre: despite water being the solvent, these paints may still contain potentially harmful ingredients. By contrast, low VOC paints typically contain VOC levels of 1-75 grams per litre. For home decorators wanting to add tinting agents to low VOC white base paint, the good news is that these agents are generally low VOC too, according to GreenPainters managing director Daniel Wurm.

NATURAL PAINTS

Low VOC paints are a good alternative to conventional ones, but may still contain petroleum-based products. Natural paints, on the other hand, are made from naturally occurring and abundant raw materials, and have a low impact on your health and the environment. Zero or low VOC natural paints contain few or no petroleum byproducts or petrochemicals, replacing these ingredients with natural oils such as safflower and linseed oil and the least harmful organic petrochemical solvent, isoaliphate.

As Wurm points out, these products are also often renewable. "We can grow safflower oil, we can grow linseed oil, we can grow citrus oil. But as we all know, we can't grow petroleum."

Angela Petruzzi, owner of eco-friendly paint manufacturer and supplier Livos Australia, adds that for those who are health sensitive or where vapour permeability is a significant factor (eg, in damp houses or those with poor air circulation), natural paints are superior to synthetic paints. "Unlike synthetic paints, the vapour permeability of natural paints allows the walls to 'breathe', there are fewer issues with mould build-up, and natural paints avoid the continuing out-gassing of VOCs."

There is a wide and growing range of natural paints and tints available in Australia, and products are reaching price parity with their conventional cousins.

SIFTING THROUGH GREENWASH

"As with any product there's a lot of greenwash [surrounding paint] and it's really hard to wade through that," explains Petruzzi. One place to begin is to look for paints that are independently certified by Australian and international certification bodies, including ecospecifier's GreenTag and Verified Product labels, as well as the GECA eco label.

Obtaining independent certification is a voluntary process for product and service providers but there is increasing evidence that such standards are helping consumers make purchasing decisions in an increasingly crowded market flooded with greenwash. As Daniel Wurm explains, these independently-ratified standards are a good guide to help users see past "green-sounding" branding. Stuart McPhee, general manager of GECA-approved Australian paint manufacturer ecolour, adds that the certification process is important because it considers the full lifecycle of a product, in addition to its ingredients.

However, the profusion of Australian and international eco labels, as well as the fact that certification has a cost attached to it, means not all products apply for a standard, even if they are technically eligible. What's more, there are questions about certification and consistency in an international market. Martin Chambers, manager at Oikos Non Toxic Paints, says the

Please note that many of the listed suppliers have a greater range of natural or low VOC paints than we've been able to list. Go to their websites for more information.

Greener paint options

BRAND	PRODUCT	TYPE	INGREDIENTS	VOC LEVEL	SUITABILITY	ADDITIONAL INFO	COLOUR RANGE	APPROXIMATE COSTS AND COVERAGE	ECO LABEL/ ENVIRONMENTAL CERTIFICATION	CONTACT & SUPPLIERS
Bio Products Australia	Bio Wall Paint HD Interior (base white), Bio Wall Paint Pigments.	Low VOC		Less than 1g/L	Interior use only, suitable for wet areas, not recommended for timber.	Natural ingredients, scrub resistant to Australian Standard AS 1580, vapour permeable.	Range of Bio Pigments available.	10L: $153.30. 1 litre covers approx 8-10 sqm	no	www.bioproducts.com.au. Available Australia wide. For stockists, visit website.
ecolour	Eco Living (interior), Eco Weather Proof and One Coat (both exterior), Tuscan series (interior/exterior) Ceiling White.	Paints: Zero VOC. Tints: extremely low VOC		Paints: nil. Tints: <1g/L	Suitable for interior and exterior surfaces depending on selection.	Paints are completely VOC free and non-toxic. Self-priming (no undercoat required), washable, scrubbable.	Can be tinted to almost any colour from any colour chart.	Prices vary depending on size and product. 10L from $110-$179. Coverage: approx 8-14 sqm/L	GECA Certified Carbon neutral	www.ecolour.com.au. ecolour factory outlet, Byron Bay, NSW. For other stockists, visit website.
Haymes	Nature's Palette Ceiling White, Low Sheen White, Sealer Undercoat.	Extremely low VOC	Non-hazardous pigments, water, polyacrylate emulsion, stabilizers, extenders, dispersants, defoamer, bactericide.	less than <1%	Interior walls and ceilings.	Scrubbable finish. Resistant to stains and marking.	More than 10 tints available.	10L: $150. Coverage: Up to 16 sqm/L	GECA certification	www.haymespaint.com.au. Available through independent paint specialists; see website for stockist details.
Livos	Livos manufactures a range of natural paint products for indoor and exterior surfaces.	Natural - zero or low VOC	Livos uses the following solvents: Water, isoaliphates, aromatic-free synthetically produced solvents, which are also used in cosmetic, medicinal, hair and deodorant spray products. Orange Oil, only used in good grade quality. Ethanol, an alcohol, which is denatured with shellac.	2-3% depending on product and tint	Can be used on many types of surfaces such as plaster, cement, brick, wallpaper gypsum boards and mud brick. May be rolled on, paint brush or sprayed. Natural tints are not scrubbable. In heavy wear areas maintainability may be an issue.	Livos products are made under the Rudolf Steiner principle of using natural raw materials. Paints are vapour permeable. Full ingredient disclosure. No chemical processing of ingredients. Made from renewable and abundant ingredients. Biodegradable. A list of raw materials available at website.	Wall and ceiling paints: White or Brilliant White depending on product. Tints: 17 colours available	Approx 10L: $170. Coverage: depends on product	ecospecifier global verified; European Decopaint Directive	www.livos.com.au. Available Australia wide. For stockists, visit website.
Murobond	Natural Flat (interior)	Low VOC	Fresh milk, casein, egg white, vinegar, calcium carbonate, titanium dioxide, talc, marble powder, borax, linseed oil, methylcellulose, glycerine, sodium silicate, alum, essential oils.	1.26% per litre	Interior render, plaster, plasterboard.	Recyclable and biodegradable components. No petrochemicals or heavy metals. Water permeable.	Can be coloured with Murobond Natural Earth pigments or universal colourants.	$21/litre (15L drum). Coverage: approx 6-8 sqm/L		www.murobond.com.au. Available Australia wide. For stockists, visit website.
Oikos Non Toxic Paints	Interior Acrylic range: Ultrasaten, Multifund, Rinfresca.	Low VOC	Based on modified acrylics and natural products such as lime, and marble dust, and other such minerals that are toxic free.	Paints: <1% Tints: Zero VOC	Depending on selection the paints are suitable for a range of surfaces including cement, plaster.	Wide product range, from washable to abrasive-resistant paints.		Prices and coverages vary. Wall paint – washable matt: 4L: $105. Wall paint – scrubbable: 4L: $110. Coverage up to 30sqm/L (Multifund)	GECA, ecospecifier	www.designerpaintco.com. Available Australia wide. For stockists, visit website.
Porter's Paints	Zero VOC Acrylics – range of textures (interior & exterior).	Low VOC		<1g/L	Designed for interior and exterior use.	Porter's Paints manufacturing processes are zero waste.		1L: $39.90, 4L: $88. Coverage: 12-14 sqm/L		www.porterspaints.com. Available Australia wide. For stockists, visit website.
	Porter's Naturals – Range includes Lime Wash, Interno Lime Wash, boncote Cement Paint, Roman Cement, Mineral Paint, Milk Paint and Interior Distemper	Natural		0g/L VOC Interior: 27g/L VOC Exterior: 14g/L				1L: $39.90, for 4L: $88. Coverage: 8-10 sqm/L		
The Natural Paint Company	Range of primers and finishing coats	Zero VOC	Ingredients: chalk, lime, casein (plant), marble powder, clay.	Nil	Interior walls, ceilings, gypsum, plaster, render, masonry, bricks, concrete depending on selection.	Based on renewable plant and mineral materials. Paints are packaged in paper bags and must be mixed with water before use.	23 basic pigments that can be mixed to achieve a charted or customised colour.	Range and coverage varies depending on product. See website for comprehensive price list.		www.naturalpaint.com.au. Available Australia wide. For stockists, visit website.

Left: Australian painting accessory supplier Sequence's "Enviro" range includes biodegradable drop sheets and recycled biodegradable cardboard paint trays. A thin plastic lining allows the trays to be wiped and reused; when you're finished it peels off, taking paint residue with it for separate disposal. Image courtesy Sequence. Far left: Image courtesy Murobond

different measurement systems behind eco labelling in different parts of the world create confusion. He believes eco labels are important, but is considering letting Oikos' longstanding GECA certification lapse because of the costs involved, explaining that he would prefer to pass on the money saved to the company's customers.

Eco labels are a useful guide to greener paint, but ultimately, choosing the best paint for a home comes down to the homeowners' requirements. Angela Petruzzi at Livos suggests that consumers make a checklist. "Is price a priority, is health an issue, is colour an issue? Get all the information and then prioritise on what's important."

RECYCLED PAINT

Given the overall environmental footprint of paint, another green option is to use paint made from recycled products. Australian paint manufacturer ecolour uses locally-developed technology to turn recycled and re-refined waste engine oil into a water-based, zero VOC paint, producing a carbon neutral certified product.

As general manager Stuart McPhee explains, the waste oil works as a preservative and helps the paint glide on smoothly so "you get some of the benefits of other paints but none of the nasty chemicals or toxic out-gassing."

Meanwhile, Paint Recyclers in Western Australia and Planet Paints in Queensland manufacture new paint from old. While recycling is admirable, the process of making new paint from a mixed batch of old paints would be less than ideal. The general recommendation is to reduce and reuse, before recycling. [Ed note: see "Paint calculators" at the end of this article to help you buy only as much paint as you need.]

COST

Low VOC, zero VOC and natural paint costs vary but Daniel Wurm at GreenPainters says that choosing natural paints over conventional ones shouldn't blow a hole in your budget.

He estimates that for an average three bedroom, two bathroom house, using natural paints will cost an extra $300. As a general rule, he suggests homeowners budget an additional ten to twenty percent on the cost of conventional materials if they want to make an eco-friendly choice.

NATURAL PAINT PERFORMANCE

It's all very well to choose environmental paints, but in the end your walls need to look great whichever product you choose.

Daniel Wurm recommends using a professional painter who is willing to adapt and use the latest green painting knowledge and techniques to achieve the best result for a reasonable price. He dismisses as a fallacy the notion that natural paints require more coats, saying some natural paints actually require fewer coats than their business-as-usual counterparts.

Certified Melbourne-based GreenPainter Mat White has used different types of low and zero VOC paints, although not too many natural paints as yet. He says low and zero VOC paints are "far superior in their short and long term benefits, for the painters, clients and the environment."

Mat advises anybody taking on their own painting project to use a zero or low VOC paint and acrylic enamels, "especially now that Australian companies are producing some fantastic products." He says DIY painters should do as much research as possible, read the manufacturer's specifications, speak to staff in their paint shop, ring a green painter in their local area for advice, and take care with surface preparation.

"There's not a lot of difference in the application of most [zero and low VOC paints] compared with applying your standard paints," Mat continues. "Some of them may vary but that's why I say do your research and find out about the product and how to apply it – that way you won't come unstuck.

"Painting's the easy part," says Mat. "If you do your preparation right, the end result will be much better."

GENERAL INFORMATION

GreenPainters: www.greenpainters.org.au
eco specifier: www.ecospecifier.com.au
GECA: www.geca.org.au

GENERAL GUIDE

eco specifier "Eco Priority Guide: Paints":
www.bit.ly/ecospecguide

PAINT RECYCLING

Detox Your Home (Victoria):
www.bit.ly/detoxhomevic
To find a recycling centre near you:
www.recyclingnearyou.com.au or via
GreenPainters: www.bit.ly/paintdisposal

PAINT CALCULATORS

GreenPainters: www.bit.ly/gppaintcalc
Bunnings: www.bit.ly/bunningspaintcalc