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The purpose of paint

Paint allows us to protect, maintain, alter and rejuvenate interior and exterior surfaces. Paint covers around 80% of the surface materials around us in residential interiors. It takes the brunt of our use of a space over time, becoming dirty, scratched, faded and peeling, requiring regular maintenance to look fresh. In recent years, many manufacturers have made significant advances in reducing both the toxicity of paint formulas and the environmental damage caused by its manufacture. Despite this, paint still takes a significant toll on the environment and on our health. One sustainable approach is to reduce the volumes of paint we use by specifying inherently durable building and surface materials with intrinsic aesthetic qualities that are best left exposed. At the other end of the spectrum paint is a relatively easy, quick and lightweight way to transform and renovate an existing space, creating endless opportunities to experiment with colour.

From very to zero voc and everything in between

There are many conflicting arguments from the paint industry regarding what type of formulas are the more safe or sustainable, and most of them centre around the level of Volatile Organic Compounds (VOCs) that paint contains. The VOC-containing ingredients of paint are added to improve workability, allowing products to remain wet at the edge when in warm environments, giving a more consistent application. VOCs come in the form of Very VOCs, Semi-VOCs and Microbial VOCs. VOCs react with our environment and contribute to indoor air pollution and urban smog and aggravate allergic and respiratory conditions in humans. Semi-VOCs persevere in the environment, continuing emissions for many years after the paint has dried. SVOCs are endocrine-disrupting chemicals which alter hormonal activity in humans and in wildlife and are suspected of contributing to behavioural problems, reproductive issues, metabolic disorders and cancer.

SVOCs are difficult to monitor as they are not always listed in a paint formula if less than one per cent of the total volume of the ingredients, even when multiple minor VOC-containing ingredients make up a large volume of the formula. The Australian Paint Manufacturers' Federation (APMF) has developed the Australian Paint Approval System (APAS) to set limits for VOC content in paint products, giving consumers a basis from which to compare products. In recent years formulaic advances have created low-VOC and no-VOC paints with good working and durability characteristics. However, be aware that when pigment is added at the point of sale, the VOC level can spike, so look for brands with a range of VOC-free tints as well as base paints. The highest concentration of VOCs is generally found in darker and brighter paints.

mythicpaint.com.au
murobond.com.au
resene.com.au
ecolour.com.au

Nature's pigments

Organically based ingredients have an important role to play in the future of paint manufacture – and more workable and durable formulas are being created all the time. These can be suitable for people with chemical sensitivity. Natural paints are made with a variety of naturally derived ingredients including milk protein (casein), linseed oil, orange oil and naturally derived pigments. However, naturally based does not always equate with non-harmful. For instance orange oil can be an irritant if industrial rather than food grade ingredients are used. Palm oil is another natural product used in some paint; the palm oil industry causes devastating harm and habitat loss in Indonesia and Malaysia.

Coverage, durability and ease of cleaning must always be considered when thinking about paint. If you need to use more to get a good finish and to re-paint more often you are doubling the concentration of materials used and therefore VOC levels. High quality paint that gives better coverage means it lasts longer and less is needed to do the same job.

livos.com.au
naturalpaint.com.au
porterspains.com

Towards closing the loop

Waste streams from paint manufacturing include waste solvents, paint sludge, accidental paint spills, discarded paint products and waste filter cartridges, as well as caustic cleaners and rinsing water containing residue from the equipment used in paint production. VOC emissions often contain hazardous air pollutants such as toluene or benzene – pollutants that cause neurological disorders and bone marrow failure. Many manufacturers are working to reduce the damage and industrial waste in the production processes, adopting renewable power sources for plants and using white water recovery systems for a closed loop water use. Leftover paint can cause extensive environmental damage to our waterways. Murkiness, caused by paint pigments in the water can both clog fish gills and block sunlight, reducing the ability of underwater plant life to photosynthesise, thus acting to smother underwater life. According to Geoff Tasker from Murobond paints the next necessary step for the industry would be a nationwide recovery program for paint and packaging. This would facilitate recycling paint and packaging and keep residual paint out of waterways and landfill. Dulux are tackling the issue of waste management with their EnviroWash System and Waste Paint Hardener as are Haymes with their new Ecocare system.

dulux.com.au
haymes.com.au



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braveneweco.com.au



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1. Doherty Design Studio used joinery as a way to connect spaces in this renovation. 2. Nicholas Gurney's clever use of joinery in a 20-square-metre space. 3. Modular cabinetry is made from sustainably forested hardwood plywood and soy based glues in Achiblox's carbon positive house. 4. Craftsmanship and detail are a feature in the Doherty Design Studio project.



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