

Conventional Paint Information

Creating healthy homes and workplaces is becoming more important as our awareness of chemical materials and their detrimental effects expands. Many conventional paint ingredients are dangerous chemicals with short and long term negative health effects to those who breathe their fumes.

Chemical Load

- Chemical load is the accumulation of chemicals in the soil, air, water, plants, animals and humans.
- It has been estimated that we spend 80% of our life indoors, meaning our house and indoor spaces have literally become our 'second skin'.
- This 'skin' is comprised of numerous allergy affecting and toxic materials such as building materials, surface materials, wallpapers, glues, furniture, carpets, cleaning and washing detergents and paints.
- Through exposure we accumulate 'chemical loads' which sometimes result in an inability to live in a chemical environment without a physical reaction (ie. Multiple Chemical Sensitivity).

History of the Paint Industry

- Up until the mid 1880's paint was not sold commercially, and people made their own. Common ingredients were milk protein, quicklime, egg and earth pigments.
- With the onset of the petroleum industry, natural paint ingredients have been replaced with by-products and waste products of this industry. Today's conventional paint industry is synonymous with petrochemicals.
- With the Industrial Revolution and up to the mid 20th century, the exposure of people to toxic chemicals and pollutants was gross and visible. Modern exposure to these substances has become insidious and invisible.
- Most toxic paint is now produced by large multinational companies who own many of the brand names.

Volatile Organic Compounds (VOC's) are:

- Chemicals with high boiling points
- Chemicals that can take years for their residues to be liberated into indoor environments.

- Usually fat soluble so readily absorbed through the skin and the lungs
- Found in paints, cleaning agents, building materials, glues, disinfectants, carpets, soft plastic, etc.
- Benzene, Toluene, Xylene, Glycol ether, Phenol, Formaldehyde, Methylene chloride.

Ingredients - Health Effect

Formaldehyde	Asthma, headache, tiredness, arthritis, eczema, mucous membrane damage, chemical sensitizer, known Class 1 carcinogen in 1990
Glycol ether	Affects nervous system, respiratory system, blood and kidneys, causes bone marrow suppression
Benzene	Infection of the respiratory system, known Class 1 carcinogen
Toluene / Xylene	Skin irritation, narcotism, damage to the nervous, kidney and heart systems, Class 2 carcinogen headaches, dizziness, vision, skin, kidney, liver
Phenol	Nervous & immune system, lungs, Class 2 carcinogen

The Environment

Energy used in the production:

- It takes 5000 - 10000 kilojoules of energy to produce 1kg of synthetic resin (from crude oil).
- It takes 200 - 500 kilojoules of energy to produce 1kg of natural tree resin.

Synthetic & complex compounds:

- We really do not know what effects these materials will have on our genetic makeup or on natural ecosystems.

Waste products:

- 20% of hydrocarbon air pollution comes from manufacturing synthetic paints. The only higher polluter is the motor transport industry.
- One million tons of waste is produced per annum from the manufacture of polyurethane varnish.

Biological Effects of Conventional Paint Ingredients

Ingredients	Used for	Banned	Biological effects
Lead	Pigment	Yes 1982	Causes brain damage - Advertiser 1/7/94
Pentachlorophenol	Fungicide	Yes 1984	Causes leukemia - High Court Judgment 31/10/93 Frankfurt, Germany
Glycol ether	Solvent	Not yet	Causes bone-marrow suppression, infertility, anemia - Superior Court Judgment New London, USA 'American Paint & Coating Journal' 1987
Acrylonitrile	Resin	Not yet	Suspected as being a carcinogen (Category 2) by the Australian Paint Manufacturer Federation
Chromates	Pigment	Partly	Suspected as being a carcinogen. Approval for use in public buildings was withdrawn by the Australian Paint Committee 1/12/90
Mercury	Fungicide	Not yet	Mercury is widely recognized as the second most toxic element on earth. Its uses are still authorized under the Australian Uniform Paint Standard Class 1 (Schedule 1)
Formaldehyde	Fungicide / Resin	Not yet	Declared as a known carcinogen at the occupational health & safety workers conference - Futuresafe 1990 in Brisbane.



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Comparison of Ingredients

Why Use Bio Paint

Conventional paint		Bio paint
	Resins & Binders	
Y	Plant oils	Y
Y	Pine resin	Y
Y	Acrylonitrile	-
Y	Acrylamide	-
Y	Epoxy	-
Y	Polyurethane	-
	Pigments	
Y	Iron oxides	Y
Y	Metal oxides	Y
Y	Earth pigments	Y
Y	Chromates	-
Y	Cadmium	-
Y	Coal tar dyes	-
	Fillers	
Y	Chalk	Y
Y	Talc	Y
Y	Silica	Y
Y	China clay	Y
	Solvents	
Y	Water	Y
Y	Glycol ether derivatives	-
Y	Aromatic hydrocarbon	-
-	Lemon peel oil	Y
	Fungicides	
Y	Formaldehyde derivatives	-
Y	Mercury derivatives	-
-	Borax	Y

- **Low allergy**
The natural base of **Bio** Products allows your family to enjoy a better and healthier life-style.
- **Non poisonous**
You make your home and environment, a safer place by using Bio Products.
- **Free from dangerous solvents**
Like toluene, xylene, glycol ether derivatives.
- **Pigments**
Typically our pigments such as earth and metal pigments are naturally occurring substances.
- **Only natural preservatives**
Natural ingredients act perfectly as a preservative.
- **Excellent durability and hiding power**
Our wall paints can be scrubbed clean and has a hiding power of 98.3% which is better than most conventional paints.
- **Breathing walls**
Bio product do not seal your walls. They can breath.
- **Uses the least amount of non renewable resources**
- **Bio paint cares for your health and for the environment**
By using Bio Products you are promoting the maintenance of a healthy balance between mankind and nature.
- **Support the natural paint industry**
- **Bio Products are Australian owned and made**



Bio Ingredients

<p>Bio Wall paint Resins & binders: Pine resin, Casein, Linseed oil, Wood oil, castor oil. Solvent: Water. Additives: Lemon peel oil, Borax. Pigments & fillers: Chalk, Talc, Bentone, China clay, Magnesium silicate, Earth pigments, Iron oxides, Metal oxides</p>	<p>Bio Floor Varnish – satin Resins & binders: Pine resin, Linseed oil, Wood oil, castor oil, Paraffin wax. Solvent: Lemon peel oil, Paraffin oil. Additives: Cobalt and Zirconium drying agent, Amorphous Silica.</p>
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Policy on Ingredients

1. They are acquired without over exploitation of nature and are of reliable and reproducible standard.
2. Originate from renewable resources (with the exception of small amounts of earth minerals and metals being mined).
3. Can be returned to the natural cycle without threat to the environment.
4. Do not contribute to the depreciation of nature.

The cost of paint isn't always apparent from the money we spend on it.

Every year society spends millions of dollars on researching cures for cancer, asthma, allergies and other health problems related to chemical pollution. It would seem that prevention is cheaper than the cure and a lot less painful.

Special Groups at Risk

Children (born & unborn)

- Chemicals exposed to parents before and during pregnancy can predispose children to having an existing chemical load (see overleaf).
- Chemicals cross the placenta and children can also be affected by parent's load.
- Research showed that women exposed to solvents had a miscarriage rate of 33%, double that of employees not in contact with solvents (Times 29 Oct, 1992)
- Children breathe more air and consume more liquid per kg of body weight and therefore are exposed to a greater amount of chemical pollutants.

- The immature nervous system of a child is more susceptible to damage by chemical pollutants.
- Children's skin is less of a barrier to absorbing chemical pollution than adults.
- Exploratory behavior often puts young children in greater contact with chemicals

The Toxic Playground
Immig, J.(2000) .Southwood Press, Sydney.

Painters

- Painters stand a chance of contracting lung cancer 40 times greater than the average person. The incidence of cancers among painters were 20% above normal." (PPM, vol. 4,no. 13 October 1989)

The Painters Hazard Handbook
Holmes, N. Victoria,OPDU,1990

Sensitive or Allergic People

- Chronic fatigue syndrome
- Asthma
- Multiple chemical sensitivity

http://www.amwu.asn.au/images/ch_3.pdf



Renewable Energy & Sustainable Living

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