

Children have a high risk of exposure to chemicals and toxins as they live close to the ground near contaminated areas such as floors and windowsills.¹

Pregnant women should be careful when renovating as chemicals and toxins can be passed through the placenta to the unborn child.¹

Concentrations of chemicals from building materials are five to 10 times higher in the areas that children spend most of their time.²

The risks

Volatile organic compounds¹

- Paints, glues, resins, polishing materials, varnishes, wood preservatives, paint strippers and cleaning products are all sources of volatile organic compounds.
- Indoors, the level of chemicals found is two to five times higher than outdoors.
- The level of chemicals can be 1000 times higher indoors than outdoors after activities such as stripping paint.

Effects of exposure can include:

- headaches
- loss of coordination
- dizziness
- memory impairment
- kidney and nervous system damage
- and maybe cancer causing.

Prevention – reduce exposure:

Older siblings must be removed from the house or area being renovated.

Use products according to directions, never mix chemicals yourself.

Do not mix chemicals while pregnant.

Make sure there is good ventilation (plenty of fresh air) while using these products. Dispose of used containers safely and store remaining products out of reach of children.

Lead³

Deterioration of old house paints and improper de-leading while renovating old houses can put your child at risk of lead poisoning.

Children come into easy contact with paint chips on the floor, walls, verandas and windowsills where they are likely to put them in their mouth and eat them.

Effects of exposure:

- children experience toxic effects at lower levels of exposure than adults

- hyperactivity
- restlessness
- learning disabilities
- stomach pain
- coma
- seizures
- brain damage
- death

Prevention – reduce exposure:

If renovating an old house be aware of the risks and keep children and pregnant women out of the house and away from renovations.

Until the 1970s, paint in Australia contained high levels of lead. Be aware that any houses built before this time will have lead paint that can be exposed during renovations and lead-containing dust may be left behind.

Formaldehyde¹

Formaldehyde can be found in pressed wood products including furniture and building materials.

Heating and faulty air-conditioning can increase levels of formaldehyde exposure.

Effects of exposure:

- eye irritation
- chest tightness and wheezing
- cancer causing.

Prevention – reduce exposure:

Find out if your wood products contain formaldehyde before buying them.

Make sure your rooms have good ventilation, temperature and humidity levels.

Sources

1. World Health Organisation (WHO) training modules: who.int/ceh/capacity/Indoor_Air_Pollution.pdf
2. Sly PD, Flack F, *Susceptibility of Children to Environmental Pollutants*, Annals of the New York Academy of Sciences 2008; 1140:163-83.
3. WHO training modules: who.int/ceh/capacity/Lead.pdf

For information on safe building materials see:
The Green Building Council of Australia
gbca.org.au