

Sources of common hazardous chemicals found in schools and childcare centres

Children spend much of their formative years in schools and childcare centres. Your child can be exposed to hazardous chemicals in these environments. Here are some of the potential hazards to be aware of.

Contaminated land

Some schools and childcare centres may have been unknowingly built on contaminated land. Previous sites where there have been polluting industries such as gas works, petrol stations or industrial factories, may not have been adequately decontaminated and could still present risks to children. Location near main roads also increases the risks of exposure to petrol by-products such as lead, benzene and particulates.

Building materials

Many building and interior fit-out materials emit toxic vapours (known as volatile organic compounds or VOCs) through the process of out-gassing. Examples include: insulating materials, plastics, sealants, paints and finishes, particleboards, carpet, vinyl, foam furnishings and treated timbers. VOCs emitted from building materials can significantly increase the levels of indoor air pollution which children are exposed to inside. Treated timbers such as CCA are also a source of chemicals now considered unsafe for children.

Maintenance and renovations

Maintenance and renovations can introduce hazardous and volatile chemicals into the indoor air from sources such as paints, varnishes, stains, treated timbers, glues and sealants, particleboard and carpets. Lead contamination is also of concern and can be introduced from old painted surfaces and contaminated dusts in roof cavities.

Pest management

Pest management is important, but a lack of understanding about pesticides has led to the excessive use of highly hazardous and residual chemicals in schools and childcare centres. Not only are the active ingredients in many pesticide formulations of concern to children's health, other so-called inert ingredients in the formulations can also be harmful.

Cleaning products

Cleaning products and procedures are a source of potentially hazardous chemicals including antimicrobials, solvents, fragrance, surfactants etc. Cleaned surfaces can retain hazardous residues and volatile ingredients are released into the air contributing to indoor air pollution.

Art and stationary materials

These materials are used to create wonderful works of art, but some pose a risk because they contain chemicals which are hazardous, particularly to children. Glues, paints, felt tip pens, stains, dyes, varnishes, photographic chemicals, glazes, plastics and resins are some examples of materials which need to be examined for their risks. Correction fluids are very hazardous to children.

Science chemicals

Because schools use a large number of chemicals in science classes there has been a lot of attention in recent times to remove many older, highly dangerous chemicals from schools. Not all schools have been thoroughly audited and their chemical supplies may still contain banned chemicals. A list of banned chemicals can be obtained from the relevant regulatory authority in your state or territory.

Personal care products

An increasing number of children have sensitivities to synthetic fragrances and solvents commonly found in a range of personal care products including, soaps, shampoos, perfumes, deodorants, hair spray, clothes detergent etc. Teachers and carers, and where possible classmates, need to consider that overly fragranced products may pose difficulties for some children. Consideration must also be given to the use of some sunscreens and insect repellants which may contain hazardous chemicals.

Food and water

An overlooked area of children's chemical exposure is the food and water they take in. A lot of food has been grown

using pesticides, antibiotics and fertilisers and their chemical residues can remain for a long time. Processed foods may contain artificial sweeteners, preservatives and colours, some of which have been shown to dramatically affect the health and well being of children. There is also genetically engineered foods to now consider.

Tools and Resources:

Toxic Playground: A guide to reducing the chemical load in schools and childcare centres,
Jo Immig, Total - available from Total Environment Centre

Safer Solutions: Integrated Pest Management for Schools and Childcare Centres,
Jo Immig, Total Environment Centre

Working Together to Clear the Air: How the chemical cocktail inside our homes is poisoning our children, Jo Immig,
National Toxics Network & Total Environment Centre.
Food Intolerance Network

Sue Dengate's Food Intolerance Network

Links to her four books are on the website: Fed Up, Fed Up with Asthma, The Failsafe Cookbook, Fed Up with ADHD.
Centre For Children's Health and the Environment

The mission of the Center for Children's Health and the Environment (CCHE) of the Mount Sinai School of Medicine is to protect children against environmental threats to health. They are leading the effort to protect children against environmental toxins and their research is examining the health hazards of pesticides, persistent organic pollutants, heavy metals and air pollutants. They are developing strategies to prevent learning disabilities, asthma, obesity and cancer.