

BRISBANE CITY COUNCIL GREEN HOME FACT SHEET – CLEAN AIR INDOORS

For clean air at home there are a number of things you can do. This fact sheet provides information on:

- products to avoid
- clean alternative products
- practical measures to improve air quality at home
- practical measures to reduce air pollutants when renovating
- green cleaning ideas

Indoor pollutants

VOCs

Volatile organic compounds (VOCs) are carbon-based chemicals that release emissions at room temperature.

VOCs are found indoors in common household materials such as paints, fibreboard, treated textiles and glues.

Exposure to VOCs and other indoor pollutants can pose a health risk. Potential health impacts relating to unhealthy indoor air quality include:

- headaches
- coughing and sneezing
- dizziness and fatigue
- eye, nose and throat irritations (respiratory)
- skin rashes and irritations
- allergic reactions (asthma)
- exposure to potential and known carcinogenic emissions
- colds and flu

Types of indoor pollutants

Sources that contribute to indoor air pollution include:

| Products (sources) | Pollutants released |
|--|---|
| Carpets, carpet underlays, vinyl floor coverings, blinds, textiles, glues and paints | styrene, xylene, toluene, VOCs, formaldehyde nitrogen dioxide, particle matter, carbon dioxide, carbon monoxide, PAHs |
| Unflued gas heaters/appliances including gas cookers | Formaldehyde, VOCs, bacteria |
| Building materials and furnishings including particle boards, medium density fibreboard (MDF) plywood, some furniture glues, some carpet backing, foam insulation and flexible foam infill in furniture Toiletries, pesticides and cleaners | VOCs, particle matter Biological pollutants (airborne particles that may cause cold and flu symptoms) |
| Bacteria, moulds, mildew, viruses, animal fur, house dust mites, cockroach faeces and pollen | Radon |
| Construction materials | Respirable particles, carbon monoxide, nitrogen dioxide, tar, nicotine, formaldehyde, benzene, ammonia and hydrogen cyanide |
| Tobacco smoke, fireplace, wood-heaters, other combustion devices | Ozone and VOCs |
| Laser printers, photocopiers, ionisers and electrostatic precipitators for air cleaning | |

Use alternative products

- carpet that is low in VOCs - use mechanical fixing or adhesives low in VOCs
- bamboo flooring - an efficient and renewable resource with low VOC emissions
- water-based paint that contains no VOCs or solvents

BRISBANE CITY COUNCIL GREEN HOME FACT SHEET – CLEAN AIR INDOORS

- ask for wood treatments and stains that are based on natural substances, such as linseed oil and beeswax polish
- choose ceramic tiles - they are a natural product and do not contain VOCs
- use a low VOC adhesive to fix tiles to the floor or walls
- some furniture manufacturers are starting to reduce the amount of formaldehyde in their products. Ask for low-formaldehyde furniture from suppliers

Improving the air quality in your home

- use doormats to keep dust from shoes outside
- ventilate your home well, in particular your bathroom, to help prevent mould build-up
- make sure that gas heaters and stoves are properly flued to the outside
- choose products without solvent or harmful particle emissions, or with very small amounts
- choose solid wood furniture from well-managed, certified forests
- ask for products with stains and wood treatments that are based on natural substances, such as linseed oil and water and beeswax polish
- ask for furnishings that have low or zero:
 - toxic moth-proofing agents
 - PentaChloroPhenol wood preservatives and anti-mould agents
 - PolyVinylChlorine
 - Azo-dyes
 - brominated fire retardants
- if you use particle-board or medium density fibreboard (MDF), ask for board made with low-formaldehyde glue. To reduce emissions of formaldehyde, cover all surfaces and edges with laminates or seal them with low-emitting paint or varnish
- use interior paints low in VOCs
- use green cleaning products
- some plants can help clean the air, they include: Aloe vera, Chrysanthemum, Happy plant (Dracaena varieties), Peace lily (Spathiphyllum varieties), Gerbera, rubber plants and Boston fern

Practical measures to reduce indoor air pollutants when renovating

- ventilate your home well before and after renovating
- use a sander with a vacuum attachment and wear a face mask
- use a water-based, low allergy paint stripper and try to avoid conventional paint strippers, in particular those that contain dichloromethane (DCM)
- if your house was built before 1970, it may contain lead-based paint. Hardware stores sell kits that can test for the presence of lead.
- Wallpaper can cause fungal growth. Mix borax into wallpaper paste to prevent this rather than using fungicide
- clean up well after renovating

Green cleaning ideas

Many conventional cleaning products contain chemicals that can harm your health. Air quality emissions from using several conventional cleaning products in a day can build up and form a nasty toxic cocktail indoors. Here are some alternatives to chemical cleaners:

You need six basic cleaning ingredients that you can buy from the local supermarket for green cleaning:

- bicarbonate of soda (bicarb soda) - it is abrasive so is good for cleaning, but without scratching, is good at absorbing odours and is a mild disinfectant
- white vinegar - it dissolves grease, deodorises and is mild disinfectant
- lemon juice - is a mild bleach and deodorises
- borax - is a mild bleach, deodorises and is a mild disinfectant. Although it is a mineral found in nature, Borax is poisonous if eaten, so keep it away from children and pets, and avoid using it on surfaces where you prepare food
- pure 100% soap flakes
- sodium carbonate (washing soda) - deodorises, disinfectants, removes stains and is tough on oil and grease, without producing the fumes that comes with many of the conventional cleaners. However, it can irritate the skin, so wear gloves while using it

Other natural products you can use:

BRISBANE CITY COUNCIL GREEN HOME FACT SHEET – CLEAN AIR INDOORS

- tea tree oil – cleans, disinfects and is anti-fungal
- eucalyptus oil – removes grease and cleans. However, it is poisonous if swallowed, so keep it away from children and pets.
- essential oils – you can use your favourite essential oil on the shower walls and door after cleaning to help reduce the build up of soap scum

Green cleaning recipes

Floor cleaner

Add to a bucket of warm water:

- ¼ cup of bicarb soda
- ½ cup of white vinegar
- a few drops of tea-tree oil or essential oil

General household cleaner – great for cleaning bench tops

In ¼ of a litre of water, mix:

- 1 tsp of bicarb soda
- 1 tsp soap flakes
- a few drops of lemon juice

Hint: for difficult spots add some extra bicarb soda.

General purpose spray cleaner

In 3 cups of water, mix:

- 2 tsp borax
- 1 tsp soap flakes

Hint: store in a labelled bottle for future use.

General disinfectant

In hot water, add:

- ¼ cup borax
- ¼ cup white vinegar
- juice of ½ lemon

Shower cleaner

Use bicarb soda to remove soap scum. Once clean, wipe the surfaces with essential oil or baby oil. It will keep the surfaces looking shiny, and will help prevent the build up of soap scum.

Window cleaner

Use white vinegar in a spray bottle with a rag or old newspapers.

Toilet cleaner

Use white vinegar once a week to rinse and clean the toilet