



**Rebuild Green Expo**  
***Build your healthy, low-carbon future***

Friday, February 22, 11-7  
Santa Rosa Veteran's Memorial Building  
FREE to the public

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### **Indoor Air Quality – Why it Matters**

Making informed choices on your home's interior finishes

When people talk about green building, we generally assume they are talking about things like solar energy, low flow toilets and good insulation. Rarely does the conversation revolve around material selection and interior design. While energy and water conservation are important issues, we are missing a vital component of green building if we do not consider how our interiors affect our indoor air quality, and by extension, our personal health and the health of the planet.

We asked local experts Rachelle Padgett and Katie Bachner, founders of The Green Materialist, an eco-friendly interior design and healthy materials consulting practice based in the North and East Bay.

#### **Question: What is indoor air quality and why is it important?**

The air we breathe has a tremendous impact on our health. Aside from needing oxygen to survive, fresh air cleans our lungs, supports our immune systems, improves cognitive function and even helps with digestion. According to a study conducted by the [National Human Activity Pattern Survey paid for by the EPA \(Environmental Protection Agency\)](#), Americans spend 90% of our time indoors. This shocking, albeit unsurprising statistic means that our indoor air comprises the majority of the air we breathe and is responsible for maintaining our body's ability to healthfully support itself.

#### **Question: What does this mean in terms of my interior design choices?**

There are hundreds of choices to be made in finishing out the interior of a new home, or in remodeling an existing home. Most of the products you choose have the potential of negatively impacting your indoor air quality. So it becomes important to choose products carefully. Sadly, we are learning hard lessons about the importance of our choices at the expense of many people who have compromised health due to issues caused by toxicity in our home finishes.

#### **Question: What is so bad about many of the products I see on the market?**

Many of the products that we see on the market are created with the objective of fulfilling a function without taking into consideration the effect that they have on our bodies. These products oftentimes contain chemicals that our bodies should not be exposed to. Many have been identified by independent agencies, as endocrine disruptors, neurotoxins, and carcinogens. It's not that the companies producing these products have nefarious intentions, it's that many are not aware of the consequences these chemicals have on our health and do not understand how they can impact our indoor air quality.

The primary route of exposure is through inhalation of chemicals that are offgassing from products into the air. Offgassing occurs when chemicals enter the air in the form of gas. These chemicals are called volatile organic compounds (VOCs). Chemicals that are VOCs turn into gas at room temperature. Many materials that have high VOCs are concentrated in wet applied products such as paints, sealers, stains, and adhesives. Some, such as the new car or new carpet smell, make themselves known while others do not smell at all.

There is a misnomer that when a product cures, it is done offgassing, this is not true. Though a lot of the offgassing is done during the curing process, offgassing can occur for a long time after. That is why it is important to choose products that are free from toxic chemicals.

Fortunately many companies are taking notice, and are creating healthier alternatives. There are many options today, and more coming every day.

**Question: But how can I tell the difference?**

Look for products with independent certifications in their labeling and marketing. GreenGuard, Cradle to Cradle, Living Building Challenge Red List Free Declare labels, are all products that have been tested for noxious chemicals. To learn more please visit The Green Materialist's blog and read the article "[Green Building Accepts the Challenge](#)".

**Question: Don't these "green" products cost a lot more?**

Because they are more consciously made, greener products tend to be of better baseline quality. If your goal is to spend the least amount of money on your interiors, you'll likely be choosing products of lower quality that will tend to fail or otherwise need replacing sooner. For instance, the house brand of paint at your local big box store may cost 40% less than an eco-friendly paint, but require many more coats for full coverage. You may pay \$100 for a table three times because it falls apart every time you move. You haven't really saved anything there. And honestly, once you realize how much of what you see can make you, your kids and pets sick, calculation should automatically shift the needle towards healthier choices. Medical bills can add up fast in comparison.

The good news is that environmental awareness has expanded and demand for green products is on the rise. The increase in competition drives down costs. One of the categories with the historically biggest price differential – cabinetry – now offers options that are competitive with

conventional brands. In addition, the recent passage of California's flame retardant bill means an increase in healthier upholstered furnishings at affordable price points.

This increase in popularity comes with a warning: many companies will market their products as "green", making claims about its eco-attributes. Make sure you ask questions and read carefully before you buy.

### **The Green Materialists' top six considerations for choosing your indoor finishes**

- **Wood** – formaldehyde in manufactured wood products, like particleboard, is one of the largest contributors to poor indoor air quality. Choose kitchen cabinets made from plywood and medium density fiberboard (MDF) with no added urea formaldehyde. Look for the Forest Stewardship Council (FSC) label to ensure wood has been sources using responsibly forestry practices.
- **Flooring** – We recommend wood, cork, or linoleum flooring instead of carpet, because they can be cleaned easily and don't trap dirt and allergens. An average carpet weighs four times more when it is removed from a home as when it goes in. Yuck! Mold, mildew, and dust mites grow and become trapped in carpet fibers, affecting the air you breathe. Hard and resilient floors can be easily cleaned and mopped. Area rugs can be taken out for cleaning, and modular carpet tiles can be individually washed if there is a spill.

If you prefer carpeting in low-traffic spaces, such as a bedroom, choose natural wool over polyester or acrylic. And a shoeless home can prevent much of the dirt, oil and grime from being tracked in from outdoors.

- **Coatings** – paint, stains, and sealers – are the largest category of impact in terms of their square footage. Thankfully there are many alternatives, and swapping conventional brands for healthier options is pretty easy. Many manufacturers offer excellent options. Paints by Colorhouse, Vermont Natural Coatings and sealers from AFM Safecoat are excellent options.
- **Countertops and tile** – in recent years engineered stone (quartz) has flooded the market as the most popular choice for countertops. But not all quartz is created equally. Look for brands with third party certifications from GreenGuard, like Caesarstone or Silestone. Aside from its durability, a benefit of quartz is that it doesn't need to be sealed like a natural stone. And while the mining of quartz is less impactful than granite or marble, it still scars the environment and can be fraught with labor concerns. Alternatives include wood, metal, recycled glass and recycled paper composites.

Tile carries a tremendous amount of embodied carbon energy, from the mining of the raw materials to the resources consumed in manufacturing to the energy used in

transportation. Look for tile that is made with recycled clay and no heavy metals in the glazes from Clayhous Ceramics or Fireclay Tile. Heath Ceramics is a local source as well.

- **Sleep** – we spend a third of our lives in bed. Choosing healthy mattresses and bedding is critical because we come into such intimate contact with them. Look for a mattress using wool as an alternative to chemical flame retardants, along with 100% natural latex over petrochemical foams. This is a critical distinction, because many companies call their product latex, when they contain only a minority percentage of the botanical tree sap. The Natural Mattress Store in Rohnert Park is a great resource. Sheets and pillows matter as well. Organic cotton is a responsible choice for the planet, and it means you are reducing your exposure to residual pesticides and finishing chemicals.
- **Plants** – ok, plants aren't actually a finishing material, but add them with abundance to your interior. Plants are in incredible way to clear the air and remove formaldehyde, benzene, trichloroethylene and carbon monoxide from your indoor spaces. The top ten species for cleaning your indoor air are: English Ivy, Bamboo Palm, Chinese Evergreen, Gerbera Daisy, Dragon Tree, Mother in Law's Tongue, Pot Mum, Peace Lily, Spider Plant and Mass Cane.

The Green Materialist will be exhibiting at the Rebuild Green Expo on February 22, 2019 at the Santa Rosa Veterans Memorial from 11- 7. Rachele Padgett and Katie Bachner will be leading an education session on indoor air quality and interior finishes.

### **About the Rebuild Green EXPO**

Come get answers on how to build more sustainably, with an eye towards resilience at the Rebuild Green EXPO, February 22, at the Santa Rosa Veterans Memorial Building. The Expo will be open from 11 am to 7 pm. See the possibilities, meet the professionals, and learn about green made easy. There will be something for everyone, from homeowners seeking clarity about what green building is, to professionals looking to learn about the nuts and bolts.

For more information about the Expo visit: [www.rebuildgreenexpo.com](http://www.rebuildgreenexpo.com)

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