



# The Blog



## Safe, Effective, Eco-Friendly Adhesives and Sealants for Green House Planning

Posted on 17. Sep, 2012 by [Maryruth Belsey Priebe](#) in [Articles](#)

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Everyone's getting into the DIY approach when it comes to sustainable house projects, [green remodeling](#), weatherizing, and even crafting. This almost always leads to the use of various kinds of adhesives, sealants, glues, and other substances to get things to stick and stay put. You bring these products into your home and when you open the container the smell can be so powerful that it makes your eyes water. You suddenly have the sinking feeling that this product is probably quite toxic, slowly diminishing your indoor air quality.

What are the long-term effects of having these chemical substances, many of which are not even regulated, in your home? If someone in your family is particularly sensitive to the toxins found in many adhesives and sealants, you'll know soon enough because they will start complaining of watery eyes or headaches. But there are also now many environmentally safe green adhesives and sealants available, whether you need a simple glue for crafting or a powerful sealant to weatherproof your home. Why not start your next projects knowing that you're using earth-friendly products?

### **The Dangers of Conventional Adhesives and Sealants**

Unfortunately, many of the chemicals used in building products simply are not regulated at all. They don't have to be tested for environmental safety or health, and if there are only tiny amounts, companies don't have to list them at all even if the chemicals are toxic and can bioaccumulate.<sup>[i]</sup>

Volatile Organic Compounds (VOCs) are one of the problems with conventional adhesives and sealants. They evaporate into the air at room temperature and can contribute to indoor air pollution, global warming, destruction of the ozone layer and compromised health in the form of lung damage, breathing disorders and cancer. The odour can be sickening and can also be flammable.

The binding agents used in some products are highly synthetic and can be very toxic. Keep an eye out for formaldehyde-releasing binders such as Urea-formaldehyde (the worst), Melamine-formaldehyde (less bad), Phenol-formaldehyde (least bad). Other binders to avoid include di-isocyanate and water solvable polyvinyl acetate (PVA).<sup>[ii]</sup>

Additionally, some adhesives use powerful solvents to liquefy the resin that acts as the bonding agent. Although solvents definitely are the way out of common use due to their toxicity, they still show up in many products. Solvent-based adhesives should be treated as hazardous waste and avoided whenever possible.

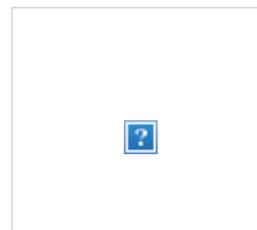
## How to Find Environmentally Safe Alternatives to Conventional Sealants and Adhesives

One place to start in terms of finding eco-friendly adhesives and sealants is to choose products that have some kind of green certification or label. There are many programs that do this, and you should become familiar with the following labels:

- The US Green Building Council's [LEED – Leadership in Energy and Environmental Design](#)
- [Green Certified by NAHB – National Association of Homebuilders](#)
- [GREENGUARD Environmental Institute](#)
- [EcoLogo Certification](#)

Some of these green labeling programs also apply to many other products such as furniture, carpeting, and paints. In addition to the green certifications, when searching for nontoxic versions of these products, look for the following features: Non-toxic, non-solvent, solvent-free, acid-free, water-based, water-soluble, low VOC (less than 1%), no-VOC, and/or no animal derivatives (if that is something you're concerned about). For specific product suggestions, check out these resources:

- Apartment Therapy has a great listing of [10 Eco-Friendly Substitutions for Glue, Caulk, and DIY Tools](#).
- If you're especially concerned about weatherproofing your house with caulk, check out [Learning to Love Caulk: 5 Eco-Friendly Options](#).
- Another great list of products as well as home-made



alternatives for kids and adult crafting can be found at [Eco-Friendly Adhesives for Around the House](#).

- Another final listing of products to check out is [EcoFriendly Binders, Adhesives and Glues](#) from the Industrial Designers Society of America (IDSA).

As if that wasn't enough information, if you want to learn even more about these issues, check out [Healthy Homes – The Delicate Balance between Energy Efficiency and Good Indoor Air Quality](#). This is a PDF of a PowerPoint presentation by Dr. Marilyn S. Black, CEO and Founder of GREENGUARD Environmental Institute given at the 2011 National Healthy Homes Conference. It has a ton of practical information for homeowners, including adhesives, sealants and much, much more.

You may also enjoy [Healthy Building: Got Green?](#), a great one-page resource detailing the concerns from The Zone: A Lounge for Student Well-Being put together by the University of California, San Diego. [GreenSpec Insights](#) blog also has articles about a wide variety of eco-friendly approaches to home living.

Image via Flickr: [devdsp](#)

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[i] Adhesives and Sealants: Performance First, but Materials Matter, by Brent Ehrlich, 2012, GreenBuilding.com. Retrieved from <http://www2.buildinggreen.com/blogs/adhesives-and-sealants-performance-first-materials-matter>

[ii] EcoFriendly Binders, Adhesives and Glues. Industrial Designers Society of America (IDSA). Retrieved from <http://idsa.org/content/content1/ecofriendly-binders-adhesives-and-glues>



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