

Suggested Environmental Considerations for Paints, Sealants and Adhesives

The most important considerations for interior paints is occupant health and performance. It is critical to consider that paint has low volatile organic compound (VOC) emissions. There is no perfect test right now for emissions from wet-applied products, so the best bet is to make sure it has both low VOC content (under 50 g/L for flat paint), and has met California Section 01350 emissions requirements.ⁱ (The key criteria being content and emissions.) Also, it is important to know that colorants added to base paints should also be low/no VOCs. Lighter colors of paint may have reduced VOCs. Manufacturers usually promote only the levels in base paint. Note: not all of the questions need a Yes answer as some questions cover the same concern in a different manner.

#	Topic	Environmental Questions	Preferred Answer	Rationale
1	Volatile organic compounds	Is this a latex paint? (Yes/No/NA)	Yes or NA	Latex paints are preferable to oil-based paints which contain higher VOCs and chemicals of concern.
2	Volatile organic compounds	Does this product not exceed the VOC limits of the South Coast Air Quality Management District (SCAQMD) Rule 1113 for Architectural Coatings (effective 1/1/2012) or Rule 1168 for Adhesives and Sealant Applications? (Yes/No/NA) (This is not applicable to non-wet accessories)	Yes or NA	This question is based on the Green Guide for Healthcare (EQ Credit 4.2). Volatile organic compounds (VOCs) are emitted as gases from certain solids or liquids including paints and adhesives.[ii] VOCs emitted can represent a serious health risk to both installers and occupants even after product is applied. Credits may be available for GGHC and LEED for compliance with this, however SCAQMD's focus is on limiting outdoor uses in generating smog.
3	Volatile organic compounds	Is this product certified to meet Green Seal GS-11 for Paints or GS-36 for Commercial Adhesives?(Yes/No/NA)	Yes or NA	This question is based on the Green Guide for Healthcare (EQ Credit 4.2). Green Seal standards cover performance as well as many environmental attributes including VOCs. VOC requirements in Green Seal may differ from the limits set above. For a list of Green Seal certified paints, see http://www.green seal.org/FindGreenSealProductsandServices.aspx?vid=ViewProductDetail&cid=10 .
4	Volatile organic compounds	REQUIREMENT: Does this product WITH COLORANT meet or not exceed the thresholds for volatile organic compounds of California's Special Environmental Requirements, Specifications Section 01350, as specified in the California Department of Public Health (CDPH)/ Environmental Health Laboratory Branch's (EHLB) Standard Method v1.1? (Yes/No/NA) If yes, specify certification.	Yes or NA	It's important to know if added colorants or tints will impact the level of VOCs. California Department of Public Health, Environmental Health Laboratory Branch has developed a standard test method for products to meet CA Section 01350, http://www.cal-iaq.org/phocadownload/cdph-iaq_standardmethod_v1_1_2010%20new1110.pdf . LEED 2012 will require 90% of wet products meet these emissions level requirements. The testing entities offering this certification include but are not limited to: GREENGUARD Product Emissions Standard for Children and Schools, GREENGUARD Select (Healthcare), and Scientific Certification Systems Indoor Advantage Gold Certification Program.

5	Multiple attributes	Is this product certified to meet EcoLogo CCD- 47 for Architectural Surface Coatings? (Yes/No/NA)	Yes or NA	EcoLogo is a third party standard developed in a consensus based process with multiple stakeholders. EcoLogo certifies to multiple attributes and generally covers products available in the Canadian market. For a list of EcoLogo certified paints, see http://www.environmentalchoice.com/en/seeourcriteria/details.asp?ccd_id=272
6	End of Life	Does the supplier offer a product Take Back Program for this product and recycles the product or uses a service that recycles the product and the recycler has been in business for at least one year? (Yes/No) If yes, please specify service and details.	Yes	Leftover paint is classified as hazardous waste and becomes a significant cost to health care facilities at the end-of-life. Is this cost factored into the purchase price? Suppliers who take leftover paint back through a Take Back Program to recycle responsibly may be preferable and a cost savings solution. If comparing suppliers and one does and one does not offer a Take Back Program to recycle the product, assess the cost of disposal and include in the bid price evaluations. (This may support GGHC and LEED credits for waste diversion.)
7	Chemicals of concern	Is this product free of intentionally added phthalates, including but not limited to, DEHP, BBP, DnHP, DIDP, and DBP? (Yes/No) If no, please specify the phthalate(s)	Yes	Phthalates may be used in paints as plasticizers (substances added to plastics to increase their flexibility, transparency, durability, and longevity). They can easily leach and evaporate into food or the atmosphere. Phthalates are esters of phthalic acid. This is only a partial list of phthalates used in commerce. Di-2-ethyl hexyl phthalate (DEHP) CAS 117-81-7, Benzylbutylphthalate (BBP) CAS 85-68-7, Di-n-hexyl phthalate (DnHP) CAS 84-75-3, Di-isodecyl phthalate (DIDP) CAS 68515-49-1 or 26761-40-0, Dibutyl phthalate (DBP) CAS 84-74-2
8	Chemicals of concern	Is this product free of intentionally added antimicrobial compounds, including nanomaterials? This includes copper, silver, triclosan or any other antimicrobials. (Yes/No)	Yes	Antimicrobials are substances that kill or inhibit microorganisms. However, with the use of antimicrobials, microorganisms have adapted and become resistant to them. There is little proof the use of antimicrobials in finishes in health care assists in preventing infections. Some products are impregnated with silver particles (nanosilver) to have an antimicrobial effect, however silver is heavy metal and an environmental toxin.
9	Chemicals of concern	Is this product free of intentionally added perfluorocarbons, such as perfluorooctane sulphonate (PFOS) and perfluorooctanoic acid (PFOA)? (Yes/No)	Yes or NA	PFCs are applied as a stain repellent. Some PFCs are persistent, bioaccumulative and toxic ^[iii] . PFC finishes are popular for their performance in the high traffic environment associated with hospitals and medical facilities. PFCs are now being found in alarming amounts in humans with potential health impacts. ^[iii]
10	Chemicals of concern	Is this product free of intentionally added ethylene glycol monobutyl ether/butoxyethanol (CAS 111-76-2) and ethylene glycol monomethyl ether/2-Methoxyethanol (CAS 109-86-4)? (Yes/No)	Yes or NA	2-Butoxyethanol is a solvent in paints and surface coatings. Butoxyethanol is listed in the State of California as a hazardous substance (Prop 65). The use of some products containing 2-butoxyethanol could expose people to levels 12 times greater than California's one-hour guideline, especially when indoor use is considered. ^[iv]

11	Chemicals of concern	Is this product free of intentionally bisphenol A diglicidyl ether, otherwise known as BADGE (one component is Bisphenol A)? (Yes/No)	Yes or NA	Animal studies link early-life BPA exposure to increased risk of prostate and breast cancer. BPA is also an endocrine disrupting chemical, which means it can interfere with hormone communication among cells controlling metabolism, development, growth, reproduction and behavior. Scientific research has only recently begun to address potential exposures to bisphenol A from building materials. The little information that exists indicates that workers spraying paints containing epoxy resins are exposed to bisphenol A with potential effects on sex hormone levels and the reproductive system, though it is unclear whether the levels of exposure are clinically significant. In response to concerns about the potential health effects of bisphenol A in building materials - particularly in workers - specifiers and purchasers should seek safer alternatives.
12	Chemicals of concern	Is this product free of intentionally added antimony, cadmium, hexavalent chromium, lead, mercury and their compounds? (Yes/No/NA)	Yes or NA	Some pigments contain toxic heavy metals including lead and cadmium. Paint can contain a variety of compounds hazardous to health including carcinogens. Ingredients less than 1 percent, and carcinogens less than 0.1 percent of the paint composition are not required to be listed on a Material Safety Data Sheet (MSDS).
13	Chemicals of concern	Is this product free of intentionally added halogenated compounds, including but not limited to methylene chloride, 1,1,1, trichloroethane, 1,2 dichlorobenzene and other chlorinated compounds? (Yes/No/NA)	Yes or NA	Halogens are 5 non-metallic elements found in group VIIA of the periodic table: Chlorine, Bromine, Iodine, Fluorine and Astatine. Halogen means "salt former" and compounds containing halogens are called "salts". Certain monomers in plastics will evaporate during shredding/grinding, posing ecotoxicity and human toxicity risks. Plastic is burned during metals recovery releasing dioxins and furans. Wastewater from plastics recycling processes is often discharged into sewers. In landfills, HFR leach from plastics and other materials and can spread. Uncontrolled burning in landfills can emit dioxins & furans from halogenated materials. [v]

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[i] CSI Section 09 91 23: Interior Painting, BuildingGreen.com, <http://www.buildinggreen.com/auth/productsByCsiSection.cfm?csiMF2004ID=2098> Accessed member materials April 2012

[ii] An Introduction to Indoor Air Quality, U.S. EPA website, <http://www.epa.gov/iaq/voc.html> viewed December 2011

[iii] Allsopp, M., Santillo, D., Walters, A. & Johnston, P., Perfluorinated Chemicals: An Emerging Concern, April 2005, pg 5

[iv] Hazard warning on home cleaners, San Francisco Gate, <http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2007/07/24/MNG0QR5P191.DTL&ao=all> Accessed April 2012

[v] Cronin, "Halogen Free: What, Why and How," Power point presentation, Environmental Monitoring and Technologies Inc

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