

SAFER PAINTS AND PAINT REMOVERS

New Products Eliminate Old Hazards

Today's paints are less toxic and more environmentally friendly than just a few years ago. They have no lead and much less mercury. If you are planning a home-improvement project, consider using the less toxic paints and paint removers that are on the market now. These newer products are safer to human health and the environment, and will not contaminate the groundwater on which we rely for our drinking water supply.

Paints

There are two main types of paints, based upon the type of solvent used. Oil-based paints use an oil as the solvent, while water-based or water-borne paints use water. Casein-based paint is an old-fashioned paint using milk protein in a whitewash-type base.

Oil-based Paint

In modern oil-based paint the main hazards come from the solvents. They may be toxic and flammable. They are usually volatile organic compounds (VOCs), which contribute to air pollution when they evaporate. Particularly hazardous are aerosol spray paints, which tend to contain solvents more dangerous than those in ordinary wall paint. Aerosol paints may contain ozone-damaging trichloroethane or cancer-causing methylene chloride, but, unfortunately, reformulation to reduce solvents is leading to more flammable aerosols.

Latex Paint

Latex paint uses water as the principal solvent, greatly reducing the hazards of using the paint. In addition, hazardous thinners are not needed for cleanup. However, some VOC solvents are also present in many brands of latex paint. Their function is to soften the resin so that it can be spread. In order to reduce paint odor and exposure to toxic chemicals, as well as to reduce air pollution, some paints are now being formulated with reduced VOC content.

Alternative Products

Some paints offer health or environmental advantages over traditional paint. Ordinary latex paints and a variety of plant oil-based paints from Auro and Livos are generally safer than oil-based paints.

Low-VOC or no-VOC latex paint is now available. The petroleum-based solvents such as ethylene glycol, which used to make up around 10 percent of the product, have been reduced to a few percent or even to zero in these paints. Low-VOC paints have a low odor during the drying process. Another advantage to reduced VOC paints is their reduced contribution to air pollution problems such as smog. Although automobiles are the major smog producers in large cities, paints and coatings also contribute to this problem.

Paint Removers

There are three ways to remove paint: with chemicals, with heat, or with mechanical force.

Solvent-based Paint Removers

Until a few years ago, the only types of paint strippers available were strong volatile solvents based on methylene chloride or on a flammable mixture of toluene, acetone, and methanol. These products are toxic to breathe and can damage your skin. However, methylene chloride strippers are the most effective. They can dissolve a variety of tough finishes, including polyurethane and epoxy, and aren't flammable.

Solvent-based strippers are highly flammable, and their vapors can cause headaches and, after continued and prolonged exposure, nerve damage. Exposure to the fumes can lead to kidney disease, an irregular heartbeat, even heart attack. The Consumer Product Safety Commission requires paint removers containing methylene chloride to carry a warning label indicating that the chemical is a possible human carcinogen.

Any solvent-based paint remover, whether it uses volatile solvents or methylene chloride, can be dangerous to use indoors, even with a window open. "Adequate" ventilation may not be enough. You should protect your eyes and hands and wear a respirator. If you choose a solvent product, use it outdoors. Chemical-protective gear—neoprene gloves, goggles, and a respirator—will help reduce the risks of using these strippers.

Water-based Paint Removers

Water borne paint strippers, effective on both latex and oil-based paints, are now available. They are less volatile and less toxic than solvent-based paint strippers. The main hazard is a varying degree of eye and/or skin irritation, so you'll need eye protection and gloves. Several brands are currently available in hardware stores.

Water-based strippers pose fewer risks than solvent-based products. Based on non-volatile organic esters formed when an organic acid meets an alcohol, they're almost odor-free, safer to breathe, and less likely to irritate skin or damage wood or metal. Some water-based strippers tend to darken wood slightly, but this is a problem only if you use a clear finish. Cleanup is easy, too. Once the softened paint has been scraped, light scrubbing with a wet sponge or rag will clear away any remaining residue.

Overall, lye-based strippers, such as Peel Away 1 are the fastest, easiest to use, and most effective. Given at least four hours to work, a single application removes practically all the paint. Other strippers often leave one or more paint layers and take more time, effort, and applications to do the same job. Covering these strippers with plastic wrap helps them work better, and prevents drying if you let the stripper work overnight.



Barnstable County

HAZARDOUS MATERIALS PROGRAM

Collaborating with the University of Massachusetts Extension

800-319-2783

508-375-6699

Heat Guns

Using a heat gun is intense work, but it's faster than any chemical method. Hair dryer-like heat guns deliver a hot stream of air which makes paint blister and bubble so you can scrape it off. Propane torches are not recommended—the open flame can char wood or start a fire.

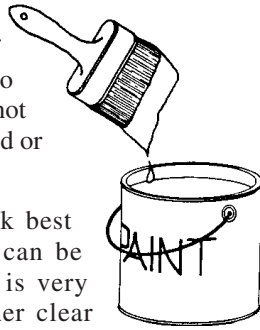
The guns do have limitations—they work best when bubbling up several layers, and can be frustrating to use when the paint film is very thin; they won't remove varnish or other clear coatings; and they're ineffective on painted metal.

Heat guns have their own hazards. The expelled-air temperature ranges from 640 to 875 degrees, so heat guns can burn skin or start a fire. Even if you're never blasted by the gun's hot air, you can get burned by touching the metal nozzle. That's a serious concern, especially if you put the gun down near a child or curious pet. As a precaution, keep a wet rag and a bucket of water handy in case you burn yourself or start a fire.

Heat guns pose another, less obvious threat. If you're stripping lead paint, they can increase your exposure to lead by vaporizing the lead or whipping paint dust into the air, where you or your family can inhale it. When the dust settles, it can still be hazardous to young children.

Remember that the paint you remove by any of these methods may itself be hazardous. The walls of old homes are likely to have many layers of paint. The layers closest to the original walls may contain high levels of lead. Remodeling relatively new houses can also pose a problem as lead paints were used in the United States as recently as 1970. Removing this paint can expose you and anyone living in the home to toxic levels of lead. Children are particularly at risk because lead impairs their learning ability. If you suspect that paint may contain lead, have it tested before you try to remove it. Contact a Massachusetts licensed lead inspector. Lead test kits are also available or you can take a sample to a commercial laboratory.

If you find that lead is present, you should take steps to protect yourself and your family. The precautions will depend upon the extent of your project. For more information on removal of lead-based paint, contact your local health department or Barnstable County Department of Health and the Environment at 508-375-6613.



RESOURCES

Synthetic Paints:

AFM Enterprises, 1140 Stacy Court, Riverside, CA 92507; 714-781-6860

Best Paint Co., PO Box 3922, Seattle, WA 98124; 206-783-9938

Bonakemi, 14805 East Moncrieff Place, Aurora, CO 80011-1411; 800-872-5515

Ecos Paint, PO Box 375, Saint Johnsbury, VT 05819; 802-748-9144

Glidden Spread 2000, 925 Euclid Avenue, Cleveland, OH 44115; 800-221-4100

Miller Paint Co., 317 SE Grand Avenue, Portland, OR 97214; 503-233-4021

Old Fashioned Milk Paint Company, 436 Main Street, Groton, MA 01450; 508-448-6336

Pace Chem, 779 South LaGrange Avenue, Newbury Park, CA 91320; 800-350-2912

Weather Bos, 1774 Rainier Avenue South, Suite 130, Seattle, WA 98144; 206-329-3663

Natural Paints:

Auro Paints (Sinan Company), PO Box 181, Suisun City, CA 94585; 707-427-2325

Biofa Paints (Bau, Inc.), PO Box 190, Alton, NH 03809; 603-364-2400

Livos (Natural Choice), 1365 Rufina Circle, Santa Fe, NM 87501; 505-621-2591

Paint Strippers:

Bix Manufacturing Company, PO Box 69, Ashland City, TN 37015; 615-792-3260

Creative Technologies Group, 14 Whitsett Street, Greenville, SC 29601; 803-271-9194

Dumond Chemicals, 1501 Broadway, New York, NY 10036; 212-869-6350

Klean-Strip Div., W. M. Barr & Company, PO Box 1879, Memphis, TN 38101; 901-775-0100

3M Do-It-Yourself Division, 3M Center, St. Paul, MN 55144; 612-733-1110

Adapted from:

"Paint," by Philip Dickey, *Green Alternatives*, July/August 1993, Greenskeeping, Inc., 38 Montgomery Street, Rhinebeck, NY 12572.

"Paint Removers," *Consumer Reports*, May 1991.

"Slow But Safer Chemicals To Strip Paint," *Consumer Reports*, June 1992

Barnstable County offers education and assistance to individuals, towns and small businesses to help them reduce the amounts of hazardous materials they use, store, and dispose of on Cape Cod.

Contact us for more information about identifying, storing, and disposing of household hazardous waste.