

SELECTING SAFER ART ADHESIVES



Alternate Formats Available
Voice: 206-263-3069 or TTY Relay: 711



**Local Hazardous Waste
Management Program
in King County, Washington**

Selecting Safer Art Adhesives



Adhesives come in all types, shapes, and sizes - ranging from relatively safe “library paste” and “glue sticks” to potentially more harmful rubber cement, epoxy resins, model glues, and other contact adhesives. Some adhesives are pasted directly onto surfaces while others are sprayed-on using aerosol cans. Many adhesives contain toxic and flammable chemicals that can impact an artist’s health.

Choosing safer alternatives to your usual adhesives can be challenging. You still need a product that works well for your project.

This article provides some tips on choosing safer adhesives and provides some information about how you can protect yourself when you have to use the more toxic products.

Spray Adhesives and Rubber Cement Solvents

Some of the most commonly used adhesives include rubber cement and the spray adhesives (also known as spray mount and spray tack). The chemicals to watch out for in these adhesives are the liquid solvents. These solvents allow the adhesives to remain liquid in the container and then evaporate as the product hardens. Many of these solvents are flammable and toxic.

Dozens of solvents are used in adhesives, so how can you tell which products are relatively safe?

A visit to an art supply store or hardware store presents a bewildering array of products, all claiming to work better than others:



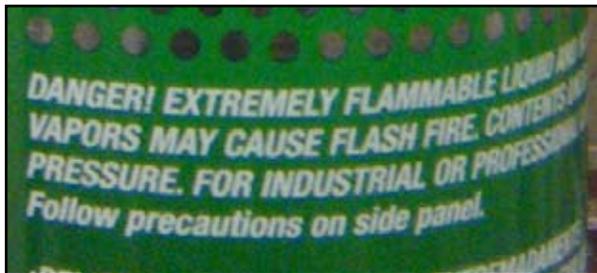
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Let's look at the spray adhesive choices:



There are five 3M products and two Krylon products. Although their product names describe what they can be used for, they don't describe their hazards. If you look at the front labels, they all say "Danger! Extremely flammable liquid and vapor" but little about their toxic hazards.



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More complete information about the potential for harmful effects lurk on the back of the can. One look at the Krylon can shows how challenging it can be to find and read this information.

There are 325 words in the panel on the right describing the hazards and how to safely use this material. Did you notice they recommend turning off all appliances? Most people don't realize that spraying enough of these flammable solvents even around a gas pilot light or near someone who is smoking can cause an explosion!

Several things to look for under "Cautions":

- "Contains", followed by the names of the chemicals at the top
- "Harmful", followed by a description of the health effects with recommendations for protecting yourself
- "First aid", which provides instructions for medical treatment in the event of overexposure
- "Delayed Effects from Long Term Overexposure", which in this case says **"Contains solvents which can cause permanent brain and nervous system damage"**



Common adhesive solvents to avoid are **hexane** and **toluene**. This Krylon adhesive has both.

- **Hexane** is a toxic solvent that has multiple health effects, ranging from irritation to the eyes, nose, and throat to nerve damage, unconsciousness and death
- **Toluene** also irritates the skin, eyes, nose, and throat, has been linked to birth defects, affects the nervous system, and causes internal organ damage



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Here are some alternative spray adhesives that don't contain **hexane** or **toluene**.



Some products may contain both **hexane** and **acetone**. There is evidence to suggest they may act together to increase the destruction of nerve cells, particularly in the fingers.

How can you protect yourself?

The absolutely best thing to do is avoid using products that contain hazardous ingredients.

If you must use adhesives that contain solvents and other potentially harmful substances, it is very important that you avoid swallowing them, breathing in the vapors, or getting them on your skin.

If at all possible, wear coveralls with long sleeves that you wash regularly. Use gloves that are compatible with the product you are using. Contact the **Art Hazards Team** if you need help choosing the best glove for your project.

Never remove product from your skin using solvents. Use soap, water, and a good stiff brush!

A dust mask does not protect you from solvent vapors! They are only good for dust. The best way to avoid toxic solvent exposures is to either use less hazardous materials or provide adequate ventilation to keep the vapors away from you. The last line of defense is to use a respirator to filter out the vapors. Contact the **Art Hazards Team** for help in finding a way to protect your lungs from toxic solvent vapors.

Disposal

Empty aerosol cans can be disposed in the dumpster as solid waste. Aerosols containing spray adhesive solvents must be disposed as hazardous waste. Visit the Local Hazardous Waste Management Program's **website** for information on disposal of these and other hazardous chemicals.



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Resources

- Guidelines for the Safe Use of Art and Craft Materials
<http://www.oehha.org/education/art/artguide.html>
- INFORM - Strategies for a better environment (PDF)
<http://www.informinc.org/fsart.pdf>
- Tucson's Health & Safety in the Arts - Database of Art Mediums
<http://www.ci.tucson.az.us/arthazards/medium.html>
- Tucson's Health & Safety in the Arts
<http://www.ci.tucson.az.us/arthazards/home.html>
- Arts & Creative Materials Institute
<http://www.acminet.org/>
- Arts, Crafts & Theater Safety
<http://www.artscraftstheatersafety.org/datasheets.html>
- Art Hazards: Internet & Library Resources
<http://www.library.wvu.edu/ref/subguides/art/arthazards.html>
- National Library of Medicine - Keeping the Artist Safe: Hazards of Arts and Crafts Materials
<http://sis.nlm.nih.gov/enviro/arthazards.html>
- Center for Research on Occupational and Environmental Toxicology
<http://www.croetweb.com/links.cfm?subtopicID=182>
- Connecticut Department of Health (PDF)
http://www.ct.gov/dph/lib/dph/environmental_health/lead/pdf/Leaded_Ceramic_Glazes_Advisory_final_04_04_06.pdf
- Chicago Artists Resource - Art and Craft Hazardous Waste
<http://www.chicagoartistsresource.org/node/9166>

This message on chemicals to watch out for was brought to you by the **Art Chemical Hazards Project**. We put on free workshops and provide free visits to studios to help artists avoid unnecessary exposures to hazardous chemicals, properly dispose of art materials when they're no longer needed and get answers to questions about the chemical components in their art materials.

Did you find this useful, interesting, confusing? Please tell us your **opinion**.

Do you want more of this kind of information? We can put on small workshops for you and other artists that are customized to your media or the topic you want to know more about. Just send us an **email** or call us at 206-263-3069.

Disclaimer

This information is intended to assist users in evaluating the risks and management of common products. This is not comprehensive information on all available products and is not intended to endorse, recommend or not recommend the use of individual products or manufacturers. Responsibility for the proper handling of materials belongs to the user. For questions, call the Business Waste Line at 206-263-8899, or 800-325-6165, extension 3-8899.

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