

Health and Safety Issues Using Soft Pastels

by Marianne Crowley, RN, a member of Southwest Florida Pastel Society - April 2016

Today I will discuss the hazards of working with pastels. This is a brief review. Take this information and adapt it to your exposure time and individual practice. This is a brief review and not an expert opinion.

This study was in part generated by a letter from a member who has developed pulmonary fibrosis. Her pulmonologist feels it developed from inhaled pastels.

I am a RN but learned nothing about industrial or environmental medicine until I began working at various industries as an industrial health nurse and was exposed to the dangers faced in various occupations, (ex. asbestos causing mesothelioma in utility lineman working underground). As an artist I studied with an artist who was very allergic to many art materials and learned about filters and protective methods from another point of view.

I have taken material from Pastel Journal and the internet including a study done by Duke University School of Environmental Medicine.

My goal is to raise your awareness of the hazards, but not to scare you.

I think like most things in life, moderation of risk is the wisest approach. You may want to study this subject further and make up your own mind on your own approach.

We love pastels because they do not darken, fade, yellow, or crack.

Pastels are the highest concentration of pigment in any medium. That is why we love them. **THE COLORS AND THE SPARKLE!!!!**

The word pastel comes from the French word for paste (pate). They consist of pigment mixed with a binder, often silica.

There are two factors that cause risk in using pastels:

1. The toxicity of the pigments themselves
2. The small size of the pigment and the binder particles.

You may be familiar with the cautions associated with pigments in other mediums, esp. oil paint. Heavy metals such as chromium, cobalt, manganese, nickel, and chrome are inorganic pigments that may cause toxicity. Most organic pigments have not been studied, but anthraquinones (alizarin crimson) or (dairylyde yellow) are suspected to cause cancer. Lead can cause anemia, GI problems, peripheral nerve damage, and reproductive system damage.

The extremely small size of the particles of pastel dust make it often invisible when airborne. Ordinary vacuum filters cannot filter them - they only blow them around the room.

Some particles will deposit in the upper respiratory system, where they are raised on the lung mucus, and swallowed along with other dust. But a significant portion of the particles are small enough to get into the lungs tiny air sacs called alveoli where they remain indefinitely. Pulmonary fibrosis occurs when the alveoli lose their elasticity. Oxygen cannot transfer from the alveoli capillaries into the blood.

Particles can also be absorbed from the skin and ingested.

The only scientific study I could find in my limited approach was the Duke study. In the Duke study in 2003, of 11 manufacturers only 2 of 1159 colors had cadmium, but all had a binder that would be

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expected to suppress respiratory function. Average sample pastel artist populations used pastel for 18 years. The researchers felt the color studied was proportional to the number of colors in the line.

The study appears to say that limited exposure does not generate significant risk of toxicity or disease. No special precautions are necessary during use or clean up.

So what to go by?

IF YOU WANT TO ERR ON THE SIDE OF CAUTION - THE IDEAL:

1. Buy "safe" pastels - check for the AP mark. It means Art and Creative Materials Institute. (ACMI) is a non-profit association of manufacturers of art, craft and other creative materials. The AP (Approved Product) Seal identifies materials that are safe. All materials are evaluated by a medical expert to certify that they contain no toxins in quantities that could cause acute or chronic health problems. Without the AP mark it means the material has a risk for causing a reaction with other ingredients to cause acute and chronic harm and/or allergic reactions. Additionally, products bearing the AP Seal meet specific requirements of material, workmanship, working qualities, and color developed by ACMI and other organizations. Some products cannot attain this performance certification because no quality standard currently exists for certain types of products. www.acminet.org
2. The MSDS (Material Safety Data Sheet) will also give you advice on ventilation. They may not address cancer or reproductive risks. Also access federal guidelines at www.hhs.gov. California guidelines seem to be the strictest. You can research them at www.dickblick.com.
3. Use a HEPA vacuum for clean up. HEPA means High Efficiency Particulate Arresting. It is made of a glass based material and rated as removing 99.97% of particles at a size of 0.3 microns. The Duke study showed average dust at 4 ug or micrograms.
4. If possible, have a sealed and washable floor.
5. Stand on carpet (vacuum and eventually throw away).
6. Keep a set of art clothes and shoes. Consider a hair cover.
7. Shower after painting
8. Wash art clothes and materials separately.
9. Keep a separate room as a studio.
10. Use an air purifier. They come with a HEPA filter and can have a carbon filter to deal with volatile toxins. The carbon filter will filter volatile material such as turpentine, used in oil painting. If you can smell it - it is volatile! I use Allerair (www.allerair.com). For about \$375 it has both a HEPA and carbon filter. I am not endorsing this product just telling you what i use. The Artistair (artistair.com) seems to be the best because it fits onto your easel, but expensive - around \$1200.
11. Turn on your filter 15 minutes or so before using and leave on several minutes after painting (I leave on overnight). Make sure your filter does not blow dust from your easel to your face. Make sure the airflow is not blocked by boxes, furniture, curtains, etc.

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12. You want the filter to direct clean air up to the ceiling, over the easel and back to the filter. Open a window if you can.
13. Use a mask. Check out the Totobobo (www.totobobo.com). It seems a good one although I have not tried it. The mask is used to deal with air pollution. I know masks can be difficult to use. I am somewhat claustrophobic and cannot keep a mask on all the time. Also, i am a “brusher” and brush off pastel often. What I do is place the mask over the brush and I am reminded to put it on before I brush. Note this approach does not help with latent airborne particles!!!!
14. Use gloves and/or barrier cream.
15. No pets or kids (husbands, etc.) in the studio. Added benefit - enhances concentration!!!!
16. No eating or drinking while painting. Bummer with our workshops!! Maybe take a break and wash up. Maybe we should cover our goodies????
17. Working in the studio take breaks and take off gloves and wash hands. Do not walk too much in the rest of the house (maybe take off the apron, mask and cap before you go to the kitchen and bathroom).
18. Keep work upright or slanted forward.
19. Put a collection device under your work to collect dust. A wallpaper soaking tray is great. Put a wet paper towels at bottom.
20. Work your painting top down if you can so dust falls.
21. NO BLOWING.
22. Clean work area after use with a wet cloth (? mess here) or HEPA vacuum.

HANDY HINTS

1. For dust on mats use “hold it”. I have not tried it, but I intend to. It is what museums use to hold valuable items on shelves. Also supposedly works to “lift off” pastel from paintings.
2. For glass use an anti static eyeglass cleaner.
3. For dust on acrylic wash with Dove Soap (Veronica’s hint).

Use this information and adapt to your practice.

Think about it and use these hints!

It is up to you to read this information and decide. I have some knowledge in this field but I am not an expert, and I have not had the opportunity to research it deeply.

You have to decide what works best for you,

Paint On!!!!!!!