Painting

**Painting Clean-up Procedures**

Sinks are for hand washing ONLY. Follow the instructions below for cleaning brushes and tools. Do not use restrooms for cleaning art materials or supplies.

**Brush Cleaning: Oil, Alkyd, Resin-oil, Enamel, Encaustic, and other solvent-thinned paints**

1. Rinse brushes in your personal small, re-closable container of the appropriate solvent: odorless mineral spirits or odorless turpenoid.
2. Wipe brushes of all paint and solvent residue on a rag or paper towel.
3. Rinse brushes of remaining paint and solvent residue in dishwashing liquid or ordinary vegetable oil--the cheapest you can find. Wipe brushes on a rag or paper towel.
4. Wash with the soapy water. Rinse well in clean water.
5. Shape the brush heads and allow them to air dry. Store dry brushes in a closed container to prevent the accumulation of dust.

**Brush Cleaning: Acrylic dispersion, Poster Paints (“Temperas”), and other water-thinned paints**

1. Wipe brushes of all paint on a rag or paper towel.
2. Rinse brushes in your personal container of water.
3. Wipe brushes of remaining paint on a rag or paper towel.
4. Wash with the soapy water. Rinse well in clean water.
5. Shape the brush heads and allow them to dry.

**Liquid Solvent Disposal**

Unwanted or waste solvents (except water), oils (including vegetable oils), and mediums SHALL be put into the cylindrical plastic safety container located in Rooms 315. The lids to all these containers must be kept closed, except when waste is being added. DO NOT use sinks or toilets for disposing of these materials: doing so will harm the environment and it’s illegal.

**Paint disposal**

Unwanted paint including palette scrapings shall be collected on a paper towel or rag and properly disposed of in studio containment cans.

**Disposal of Failed Art**

Unwanted or failed art projects embody shall be broken down into small pieces and dispose of in the studio trash containers.
General Disposal

YOU are responsible for removing unwanted furniture or trash from your studio to the nearest dumpster. DO NOT leave these objects in a hallway. Objects in a hallway violate university regulations, and can block our emergency exit from the building.

Painting Materials

Painting and drawing materials consist of pigments mixed with various vehicles such as water, oil, wax, egg yolk, casein, resins and solvent solutions. The primary hazard in standard painting techniques is the accidental ingestion of pigments due to eating, drinking or smoking while working with paints. Ingestion may occur through inadvertent hand-to-mouth contact or by pointing the tip of the brush with the lips.

Pigments

Pigments are used as colorants in painting and drawing. Many pigments are inorganic and come from common minerals. Pigments may also be organically manufactured in a laboratory.

Hazards Associated with Pigments

Methods such as spraying, heating or sanding may cause the potential for inhalation of toxic pigments. Lead and other toxic metal-containing pigments are common in painting and drawing products. Lead pigments can cause anemia, gastrointestinal problems, peripheral nerve damage and brain damage in children, and kidney damage or reproductive system damage. Other inorganic pigments may be hazardous including pigments based on cobalt, cadmium and manganese. Some of the inorganic pigments, in particular cadmium pigments, chrome yellow and zinc yellow are known or suspect human carcinogens and may cause lung cancer. Chromate-containing pigments such as chrome yellow or zinc yellow and cobalt can cause skin irritation.

Safety Precautions When Working with Pigments

The following safety precautions shall be followed when working with pigments:

Obtain a material safety data sheet (MSDS) on your paints to find out what pigments you are using. This is especially important because the name that appears on the tube of color may or may not truly represent the pigments present. Manufacturers may keep the name of a color while reformulating the ingredients. Do not use lead or carcinogenic pigments. Use the least toxic pigments possible;
Use tube paints and commercially available inks when possible. Avoid mixing dry pigments;
If dry pigments are mixed, do so inside a glove box (a box with a glass or Plexiglas top and holes in the sides for arms) or inside a laboratory-type fume hood;
If a glove box or exhaust hood is not practical, wear a NIOSH-approved toxic dust respirator when mixing dry pigments;
Wet mop and wipe all surfaces when using dry pigments;
Never use lips to point the end of the paintbrush; Eating, smoking and drinking are prohibited in the studio; and Avoid using dishes, containers or utensils from the kitchen to mix or store paints and pigments.

**Water-Based Paints**

Water-based paints include watercolor, acrylic, gouache, tempera and casein. Water is used for thinning and cleanup.

*Hazards Associated with Water-Based Paints*

Acrylic paints contain a small amount of ammonia. Some sensitive people may experience eye, nose and throat irritation from the ammonia. Acrylics and some gouaches contain a very small amount of formaldehyde as a preservative. People already sensitized to formaldehyde may experience allergic reactions from the trace amount of formaldehyde found in acrylics. Casein paints use the protein casein as a binder. While soluble forms are available, casein can be dissolved in ammonium hydroxide which is moderately irritating through skin contact and highly irritating through eye contact, ingestion and inhalation.

*Safety Precautions When Working with Water-Based Paints*

The following safety precautions shall be followed when working with water-based paints:

- Avoid using sodium fluoride, phenol or mercury compounds when adding preservatives to paints;
- Use a window exhaust fan or open a window while using acrylic paints;
- Use a window exhaust fan to provide ventilation while mixing casein paints using ammonium hydroxide;
- Never use lips to point the end of the paintbrush;
- Eating, smoking and drinking are prohibited in the studio; and
- Wear gloves, goggles and protective apron when handling ammonia. An emergency eyewash is available in the printmaking studio.

**Non-Water Based Paints (Oil)**

Oil paints, encaustic and egg tempera use linseed oil, wax and egg respectively as vehicles, although solvents are often used as a thinner and for cleanup. Turpentine and mineral spirits (paint thinner) are used in oil painting mediums, for thinning or for cleaning brushes. Alkyd paints use solvents as their vehicle. In addition, many commercial paints used by artists also contain solvents.

*Hazards Associated with Non Water-Based Paints*
Solvents can cause defatting of the skin and dermatitis from prolonged or repeated exposure. Acute inhalation of high concentrations of mineral spirits, turpentine vapors, and other solvents can cause narcosis, which can include symptoms of dizziness, headaches drowsiness, nausea, fatigue, loss of coordination, coma and respiratory irritation. Chronic inhalation of large amounts of solvents could result in decreased coordination, behavioral changes and brain damage. Chronic inhalation of turpentine can cause kidney damage and respiratory irritation or allergies. Ingestion of either turpentine or mineral spirits can be fatal. In the case of mineral spirits, this is usually due to chemical pneumonia caused by aspiration (breathing in) of the mineral spirits into the lungs after vomiting. Turpentine can also cause skin allergies and be absorbed through the skin. Epoxy paints consist of an epoxy resin component containing the pigment and a hardener component. The epoxy resin may contain diglycidyl ethers which are irritants, may cause bone marrow damage and are suspect carcinogens. Epoxy hardeners may cause skin and respiratory allergies and irritation.

Safety Precautions When Working with Non Water-Based Paints

The following safety precautions shall be followed when working with non water-based paints:

Replace turpentine or ordinary mineral spirits with the less toxic odorless mineral spirits;

Use a window exhaust fan to provide ventilation. Set up easel approximately three feet from a window that has a fan exhausting at work level pulling the solvent vapors away from your face. The rest of the window should be blocked off so that contaminated air does not re-enter the room. Techniques such as turpentine washes require a lot of ventilation because they result in the evaporation of large amounts of solvents in a short period of time;

Wear neoprene gloves while cleaning brushes with mineral spirits or turpentine;

Remove paint from hands using baby oil, soap and then water;

When adequate ventilation cannot be provided while using epoxy paints, gloves and a NIOSH-approved respirator with organic vapor cartridges shall be worn;

Never use lips to point the end of the paintbrush;

Eating, smoking and drinking are prohibited in the studio; and

During pregnancy and nursing, switch to water-based paints to avoid exposure to solvents.

Table for Toxic Pigments

<table>
<thead>
<tr>
<th>Known or Probable Carcinogens / Highly Toxic Pigments</th>
</tr>
</thead>
<tbody>
<tr>
<td>antimony white (antimony trioxide)</td>
</tr>
<tr>
<td>barium yellow (barium chromate)</td>
</tr>
<tr>
<td>burnt umber or raw umber (iron oxides, manganese silicates or dioxide)</td>
</tr>
</tbody>
</table>
cadmium red or orange (cadmium sulfide, cadmium selenide)
cadmium yellow (cadmium sulfide)
cadmium barium colors (cadmium colors and barium sulfate)
cadmium barium yellow (cadmium sulfide, cadmium selenide, barium sulfate, zinc sulfide)
chrome green (Prussian blue, lead chromate)
chrome orange (basic lead carbonate)
chrome yellow (lead chromate)
cobalt violet (cobalt arsenate or cobalt phosphate)
cobalt yellow (potassium cobaltnitrate)
lead or flake white (basic lead carbonate)
lithol red (sodium, barium and calcium salts of soluble azo pigment)
manganese violet (manganese ammonium pyrophosphate)
molybdate orange (lead chromate, lead molybdate, lead sulfate)
naples yellow (lead antimonate)
strontium yellow (strontium chromate)
vermilion (mercuric sulfide)
zinc sulfide
zinc yellow (zinc chromate)

Moderately Toxic Pigments / Slightly Toxic Pigments
alizarin crimson (lakes of 1,2-dihydroxyanthraquinone or insoluble anthraquinone pigment)
carbon black (carbon)
cerulean blue (cobalt stannate)
cobalt blue (cobalt stannate)
cobalt green (calcined cobalt, zinc and aluminum oxides)
chromium oxide green (chromic oxide)
manganese blue (barium manganate, barium sulfate)
Prussian blue (ferric ferrocyanide)
toluidine red (insoluble azo pigment)
toluidine yellow (insoluble azo pigment)
viridian (hydrated chromic oxide)
zinc white (zinc oxide)
Construction of Stretchers

All users of the studio tools must complete a construction orientation with a painting studio faculty member. Construction of painting stretchers and access to power tools is only allowed during class-time under faculty supervision. A faculty member reserve the right to deny admittance to anyone not having satisfactorily completed construction orientation and individuals not enrolled in NAU painting courses.

STUDIO SAFETY
1. EYE PROTECTION MUST BE WORN DURING USE OF POWER TOOLS.
2. DO NOT WORK ALONE IN THE WOODSHOP. A Studio Faculty member or attendant must be present.
3. NO FOOD OR DRINK ALLOWED IN MAIN STUDIO (RM. 315 or RM 313) DURING STRETCHER CONSTRUCTION.
4. CLEAN UP AFTER WORKING.
5. PLACE TOOLS IN ROOM 315A STORAGE ROOM.
6. DO NOT FORCE TOOLS. If a tool does not work without force, notify Faculty member or attendant immediately.
7. KNOW THE TOOL you are working with before attempting to use it. Ask Faculty member for instruction before proceeding.
8. NEVER ASSUME A TOOL IS PROPERLY ADJUSTED. Always check the tool prior to use.
9. COURTEOUS BEHAVIOR IS A SAFETY OBLIGATION. Please notify anyone standing near a tool before you turn it on. By working in this studio you grant the faculty member the right to deny admittance if your behavior is deemed unsafe.
10. IN CASE OF INJURY, STOP WORK and notify the faculty immediately. Even a small injury can cause you to go into shock. Immediately seek treatment of major injuries. A first aid kit is provided to treat minor injuries. If you are in the shop when someone is injured, you must stop working and assist him or her, but you must be trained to provide first aid.

TOOLS MAY NOT LEAVE THE PAINTING STUDIO!
NO TOOL CHECK-OUT!