



GOING GREEN: THE ART OF RECYCLING AND WASTE DISPOSAL

Proper disposal of solvents and other hazardous art materials has become a serious safety and health issue as well as an environmental concern for many artists. Federal and State laws require proper disposal of hazardous waste. Many of the solvents used in art work (such as turpentine) and compounds used in paints (such as lead, cadmium, and chromium). This section is intended to serve as a guide for artists in managing waste disposal of hazardous materials.

Down the Drain...

You must ask yourself these questions about your product prior to disposing of materials

To Answer Most of These Questions Below you will need a current MSDS on your product...

IF yes to ALL listed questions then a product may be drained to sewer with plenty of water.

1. **Is the product water-soluble?**
2. **Is the product incapable of being dried at room temperature and disposed of in a solid waste stream as in plaster and/or clay.**

Acrylics can be dried at room temperature. Plaster and Clay can dry in your septic/sewer system causing problems later.

3. **Is the product allowed by manufacturers MSDS to be disposed of in sanitary sewers?**
4. **Is the product marked non-hazardous?**

(ie, isn't corrosive, reactive, ignitable, moderately or highly toxic or listed)

5. **Is the product having a pH of 5-10?**

Check using Litmus pH tester.

6. **Is the product a non-oil carrier? In other words, is your product Oil-Free?**
7. **Not a producer of gases, vapors or fumes, which can be toxic (has ACGIH TLV value) or explosive (has Lower Explosion Level (LEL) value)?**
8. **Is the product free of metals such as arsenic, zinc, nickel, thallium, selenium, mercury, lead, antimony, beryllium, chromium, cadmium, silver, copper?**
9. **Is the product free of cyanides, cyanates?**

Products containing cyanides are damaging to fish, phytoplankton and other aquatic life.

10. **Is the product free of fats/oils, and grease of petroleum, animal and vegetable origin?**

Will accumulate in pipes causing back-ups and or fire hazards.

11. **Is the product free of ammonia, ammonia salts, and cleaning agents that produce metallic complexes?**
12. **Is the product volume less than 5 gallons?**
13. **Is the products flashpoint greater than 140F?**
14. **Is the product not a screening, sludge, or residue from the pretreatment of the waste?**

Proper Disposal Required...

Aqueous Liquids

Acids, Etching Solutions & alkali solutions used in printmaking and photography

Acids and Alkali solutions need to be neutralized before being disposed.

The Procedure

Dilute acids and alkali solutions with vinegar, pouring slowly to prevent acid splash and potential injury. Pour down sink with generous amount of water.

Solvents / Organic Solvents

Turpentine, Mineral Spirits, Alcohol and Turpenoid™.

Some of these can be recycled and should never be poured down the drain or dumped outside because they kill good bacteria and other waste products that aid in our sewer system/septic system.

Try RE-USING, it's a great way of being more earth friendly!



The Procedure -- For Large Amounts of Solvent.

- 1) Have a paper or wire-mesh coffee filter and a metal funnel handy. Place together.
- 2) Slowly pour the used or dirty solvents through funnel into brush washer or solvent container.
- 3) Cap & clearly label.
- 4) Package the dirty solvents and chemicals in the filter in a sealed container and put in regular trash pickup

The Procedure -- For Small Amounts of Solvent (Less than a liter)

- 1) Let evaporate and throw remains in regular trash.

Chlorinated Solvents

Most Metal Cleaners, Paint Stripper/Remover & Anything containing Methylene chloride, Perchloroethylene or Trichloroethylene.

The Procedure

These Products should be separated and more expensive to dispose of because of what they contains. This must be taken to the **Hazardous Waste Collection Site**. All solvents and solvent waste must be collected in a paint collection drum, this includes any rinse material from cleaning brushes or other items contaminated with oil base paint.



Oils & Organic Oils

Linseed Oil, Safflower Oil, Tung Oil
These products are flammable and must be sealed in a container for disposal.

The Procedure

Use remaining Linseed Oil on wood easels to beatify and protect. Oil soaked rags need to be hung outside out of direct sunlight and dried then reused - these are high risk for spontaneous combustion.

Varnishes

Do not throw these in the garbage!

The Procedure

Collect and take to a **Hazardous Waste Collection** site because these products carry chemicals which are toxic. Any containers which have contained any type of solvent, varnish or oil needs to be thrown away and not reused. Contact your local waste management facility will have areas and/or days in which you can dispose of these toxic materials.

Aerosols

Aerosol Paint Cans, Fixatives, Spray Clear, Adhesives, etc.

The Procedure

Make sure they are completely empty and then throw away in regular trash. Spray cans with residue on them are flammable. If they are made of aluminum they can be placed with recyclables.

Traditional Paints

Water-based:

Holbein Duo, Van Gogh H₂O, Winsor & Newton Artisan Watermixable Oil, Grumbacher Max, etc.

The Procedure

All Water-based paints like those listed above need to dry then place in the garbage. Paints that contain lead, chromate, cadmium pigments should be disposed of in Hazardous Waste Collection.



Solvent-Based:

All Standard Oils & Mediums

The Procedure

Re-use or Recycle -- use as underpainting of fu-

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ture painting. If it is necessary to discard, discard in small quantities (less than one pint). Allow to evaporate then place in regular garbage. All products containing hazardous materials need to be disposed of at your local **Hazardous Waste Collection** site.

Solid-Based:

The Procedure

Let solids settle, filter with mesh filter and recycle. Remaining wastewater that has a pH less than 5.0 mp greater than 9.5 - cannot be put down the drain.

Tempera paint

The Procedure

Tempra can be washed down the sink in small amounts with generous amounts of water. If larger amounts, allow to dry and place in regular trash as a solid form.

Acrylics & Latex:

The Procedure

Let dry, put in the regular trash. All products containing hazardous materials need to be disposed of at your local hazardous waste collection site. (See MSDS)

Clay, Plaster & Minerals

Clay, Sculpey, Plaster of Paris, Paper maché.

The Procedure

Recycle, or place in garbage, not considered hazardous waste.



Plaster

The Procedure

Not considered a hazardous waste, place in regular garbage in sealed plastic/zip-lock bags.

Liquid Glazes

The most current liquid glazes do not contain metal so therefore they can be placed in garbage.

The Procedure

Recycle when possible. If products contain toxic, leachable materials they will need to go to hazardous waste collection. Dry before disposing them. Do not pour down the sink! Ceramic glazes should be disposed of in a special sink with a settling tank or taken to a **Hazardous Waste Collection** site.

Natural Dyes

Power Dyes

The Procedure

Re-use or Recycle. If it is necessary to dispose, seal in a bag and place in regular garbage, they are considered biodegradable.

Liquid Dye Solutions

The Solution

Pour dye solution down the drain with generous amounts of water. If the dye is acidic or alkaline neutralize with vinegar.

Mordant Baths

Used for dyeing fibers must not be poured down the drain since they have oxidizing agents and will damage vegetation, septic systems or compost heaps.

The Procedure

They should be taken to a **Hazardous Waste Collection** site.

Glues & Cements

Water-Based Glues: Non-Aerosol.
Elmer's Products, Yes! Paste.

The Procedure

Allow to dry then place remains in regular garbage.

Solvent-Based Glues:
Heavy-Duty Industrial Strength Glues.
The Products are highly toxic, flammable and harmful if inhaled. Use only in well ventilated areas.

The Procedure

Allow to evaporate and then place in the garbage. All products containing hazardous materials need to be disposed of at your local **Hazardous Waste Collection** site. (See MSDS)



Metals & Compounds

Metals & Alloys:

Aluminum, Tin, Steel, Copper, Bronze, etc.

The Procedure

Recycle or place in regular garbage. Lead is a hazardous material that needs to be disposed of at your local hazardous waste collection site.

Compounds:

Lead, Cadmium, Chromium, Silver, Gold, Iron, Magnesium, Nickel, Zinc.

The Procedure

Recycle or use the hazardous waste collection for the toxic ones. Scrap solders containing lead, cadmium, or silver are considered **Hazardous Waste Collection** unless recycled.

MSDS

Material Safety and Data Sheet

To determine the properties of most of these art materials refer to the product's MSDS sheet. You can attain these through Cheap Joe's Art Stuff, the manufacturer, some free online services or your local environmental offices which have access to this type of information.

Formats for MSDS vary and each state has a different layout. However, your Typical MSDS should contain the following information:

The Chemical Identity -- The identity of the substance as it appears on the label.

Section I.

Manufacturer's Name and Contact Information

Manufacturer's name, address, telephone number and emergency telephone number. Date the MSDS was prepared and an optional signature of the preparer.

Section II.

Hazardous Ingredients/Identity Information

Lists the hazardous components by chemical identity and other common names. Includes OSHA PEL (Permissible Exposure Limit), ACGIH TLV® (Threshold Level Value) and other recommended exposure limits. Percentage listings of the hazardous components is optional.

Section III.

Physical/Chemical Characteristics

Boiling point, vapor pressure, vapor density, specific gravity, melting point, evaporation rate, solubility in water, physical appearance and odor.

Section IV.

Fire and Explosion Hazard Data

Flash point (and method used to determine it), flammability limits, extinguishing media, special firefighting procedures, unusual fire and explosion hazards.

Section V.

Reactivity Data

Stability, conditions to avoid, incompatibility (materials to avoid), hazardous decomposition or byproducts, hazardous polymerization (and conditions to avoid).

Section VI.

Health Hazard Data

Routes of entry (inhalation, skin, ingestion), health hazards (acute = immediate and chronic = build up over time), carcinogenicity (NTP, IARC monographs, OSHA regulated), signs and symptoms of exposure, medical conditions generally aggravated by exposure, emergency and first aid procedures.

Section VII.

Precautions for Safe Handling and Use

Steps to be taken in case material is released or spilled, waste disposal method, precautions to be taken in handling or storage, other precautions.

Section VIII.

Control Measures

Respiratory protection (specify type [see respirators], ventilation (local, mechanical exhaust, special or other), protective gloves, eye protection, other protective clothing or equipment, work/hygienic practices.

Remember!

Any containers which have contained any type of solvent, varnish, oil or paint needs to be thrown away and not reused.

Each county and area has a hazardous waste collection day - For more information contact your local waste disposal center or **www.epa.gov** which has information for the whole United States.

General Information When Purchasing the Materials:

Following these tips will reduce the amounts of waste you produce.

- **Go Small --**
Purchase only as much as you need.
- **Re-use/Recycle --**
Always try to pass along remaining products so someone else can use them so it cuts down on the trash. Some products can also be re-used or recycled. We'll touch on those products later in this guide.
- **Before you Rinse --**
Wipe your brushes on paper towel before rinsing so it cuts down on the debris that you pour down your sink later.
- **Check the Label --**
Always read the label on the packaging! Manufacturers sometimes indicate proper disposal on their labels or if the product contains hazardous substances.
- **Ask for MSDS --**
Material Safety Data Sheets will provide storage and handling information, first aid procedures, flammability information and a listing of the hazardous ingredients.
- **Know Your Area --**
Know where your local Hazardous Waste Collection site is: This is a recycling area found usually with local waste dump

References:

Town of Boone waste water treatment plant, www.infinc.com, www.siri.uvm.edu, www.web.princeton.edu

Interactive learning Paradigms Incorporated, www.ilpi.com/msds/faq