




















MATERIAL HAZARDS

HAZARD SYMBOLS

HAZARDS

Eye	
Nose	
Mouth	
Hand	
Poisonous	
Explosive	
Corrosive	
Carcinogen	
Flammable	
Fatal	
Narcotic	
Allergies	
DO NOT USE	
Toxic Gas	
Death	
Medical	
Toxic	
Cuts	
Burns	

SAFETY PRACTICES

Wet Mop	
Ventilation	
Dustmask	
Gloves	
Wash hands	
Avoid Ingestion	
Proper Storage	
Goggles	
Avoid Flame	

PRINTMAKING

[illegible]

PRINTMAKING

Printmaking is divided into four basic techniques. These are: RELIEF PRINTING, INTAGLIO, LITHOGRAPHY, and SILKSCREEN.

The ink used in all types of printmaking may be a source of hazardous materials. Pigments, which give colour to the ink, may be a hazard depending on those used in making the ink. It is best to purchase pre-mixed ink so as to avoid touching and inhaling the powders yourself. Avoid those colours made from known hazardous pigment colourants.

Pigments are mixed with vehicles such as linseed oil and modifiers to make the ink stiff or to retard drying. These may also be hazardous by ingestion and skin contact. They often are fire hazards and should not be used near an open flame.

When ever possible use watersoluable inks and screen sensitizers. This will remove the need for using potentially dangerous solvents, thinners, turpentine and lacquer thinners.













At the school level, processes such as lithography and hard ground etching which involve the use of acids, should be avoided or done with extreme caution. Proper protective clothing, safe working procedures, and adequate ventilation must be provided.

The use of sharp cutting tools in lino block and wood block printing pose a potential hazard. Use a bench hook and always cut away from fingers and hands. Make several smaller cuts rather than trying to remove the material with deep cuts which require extra pressure and make control of the knife more difficult.









Work in a clean studio with adequate storage space for the drying prints. When using oil based inks and solvents proper ventilation must be provided.

Wash hands with soap and water after printing. Barrier hand creams may also be used for additional protection.











PRINTMAKING

MATERIAL	SYMBOL	HAZARD
<div>1. <u>GENERAL</u></div> <div><u>ACIDS</u></div>	<div></div> <div></div> <div></div> <div></div>	<div>See ACID chart</div>
<div><u>PIGMENTS</u></div> <div>Powdered</div>	<div></div> <div></div> <div></div>	<div>Allergenic</div> <div>Toxic by ingestion</div> <div>Some colors are carcinogenic</div>
<div>Wet</div>	<div></div>	<div>Skin irritant</div> <div>Allergenic</div>
<div><u>SOLVENTS</u></div> <div>Fire</div> <div>Toxic fumes</div>	<div></div> <div></div> <div></div> <div></div>	<div>See SOLVENT chart</div>






PRINTMAKING

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
  	<p>Use fume hood for mixing acids</p> <p>Wear splash proof goggles</p> <p>Store acid on bottom shelf</p> <p>Neutralize all baths and flush solution down sink with water for at least five minutes</p> <p>Store nitric acid separately</p>	
  	<p>Wear dust mask</p> <p>Wear gloves</p> <p>Wet mop cleanup</p> <p>Use wet pigments when possible</p>	<p>Use premixed ink</p>
	<p>AVOID ingestion</p> <p>Wear gloves</p> <p>Rags soaked with oil based ink should be stored in self-closing disposable cans</p>	<p>Use water-based ink</p>
	<p>Use fume hood, good back venting for small quantities, or mix outside</p> <p>Do not pour solvents down sink</p> <p>Store in properly approved containers</p> <p>Store maximum of 2 gals. in room at one time to adhere to safety regulations</p>	













PRINTMAKING

MATERIAL	SYMBOL	HAZARD
<u>MODIFIERS</u>		
<u>INK REDUCERS</u> Linseed oil Linseed varnishes	 L  L 	Toxic by inhalation Mild skin irritant Flammable when heated
<u>TACK REDUCERS</u> benzine magnesium carbonate	 L  L 	Skin irritant Toxic by ingestion Flammable
<u>STIFFENERS</u> Aluminum stearate Magnesium carbonate		Not significantly hazardous
<u>ANTISKINNING AGENT</u> Eugena/oil of cloves Aerosol type spray	 L  L  H	Ingestion irritant Skin irritant Highly toxic in aerosol spray form
<u>DRYERS</u> Lead Manganese	 H	Toxic by inhalation Non-toxic in wet form












PRINTMAKING

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
	Use dilution venting Dispose of rags in self-closing disposable can	
	AVOID ingestion Wear gloves Dispose of rags in self-closing disposable can	Use vaseline, cup grease or Crisco
 	AVOID ingestion Wear gloves Use proper venting	
	AVOID USE in powdered form	













PRINTMAKING

MATERIAL	SYMBOL	HAZARD
2. <u>INTAGLIO</u> <u>DRYPOINT/ENGRAVING</u>	 	Cuts from tools Burns from metal
<u>ETCHING GROUNDS</u> Hard contain beeswax asphaltum resin xylene benzine	 H  H  H 	Skin irritant/skin cancer Respiratory irritant Allergies Highly toxic by ingestion Flammable
Soft contain axlegrease/vaseline mineral spirits benzine benzol chloroform	 L  M  H 	Eye irritatnt Toxic by inhalation Skin irritant Flammable
<u>AQUATINTS</u> <u>Rosin dust</u>	 H 	Toxic by inhalation/allergenic Highly explosive by spontaneous combustion










PRINTMAKING

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
	<div>Hold tools properly</div> <div>Cut away from yourself</div> <div>Store tools with edges covered</div>	
<div>    </div>	<div>Wear goggles</div> <div>Wear dust mask</div> <div>Wear gloves</div> <div>Wash hands after work</div> <div>Xylene and benzine not necessary in the making of hard ground</div> <div>Do not use</div>	
<div>  </div>	<div>Wear goggles</div> <div>Wear gloves</div> <div>Use fume hood venting</div>	
<div>  </div>	<div>Wear gloves</div> <div>Use proper respirator</div> <div>Wet mop cleanup</div> <div>Keep sparks away from rosin</div>	










PRINTMAKING

MATERIAL	SYMBOL	HAZARD
<u>AQUATINTS</u> Stop outs contain rosin alcohol asphaltum	 M  H 	Dust may cause allergies Skin irritant Carcinogen
<u>ACIDS</u> Dutch mordant potassium chlorate Hydrochloric Sulfuric Nitric	  H   H	Making of dutch mordant releases deadly chlorine gas Highly corrosive to eyes Highly corrosive to skin AVOID ingestion
<u>PHOTO ETCHING</u> Photo resist	 	Respiratory irritant Skin irritant
Developer/dyes		Toxic by inhalation
Carbon arcs	 H  H	Eye damage Toxic fumes














PRINTMAKING

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
 	Wear dust mask Wear gloves AVOID skin contact	
   	Store potassium chlorate away from heat and other combustible materials Wear goggles Use proper fume hood Neutralize old acid baths with sodium bicarbonate before pouring down sink. Flush with water for 5 minutes Store nitric acid away from all other acids	
	Wear butyl gloves	
	Use fume hood	
	Wear goggles * 14 shade Paint darkroom with zinc oxide paint which does not reflect ultraviolet rays	Use mercury or metal halide lamps but still avoid looking directly at the light








PRINTMAKING

MATERIAL	SYMBOL	HAZARD
<p><u>COLLOGRAPHS</u> Glues based on Organic solvents</p> <p>Plastic resins</p> <p>Dust from sanding</p> <p>Inks/solvents</p>	<div>     </div>	<p>Toxic by inhalation</p> <p>Skin irritant</p> <p>Respiratory irritant</p> <p>Skin irritant</p> <p>See PIGMENT chart</p> <p>See SOLVENT chart</p>
<p>3. <u>LITHOGRAPHY</u></p> <p><u>LITHOGRAPH CRAYONS AND PENCILS</u> lamp black</p>	<div>  </div>	<p>Skin irritant</p> <p>Skin cancer from repeated use</p>
<p><u>TUSCHES</u> Mixed with solvents</p>	<div>  </div>	<p>Toxic by inhalation</p>
<p><u>STONE PROCESSING</u></p> <p>Gum etch rosin</p> <p>talc</p>	<div>    </div>	<p>Skin burns and allergies</p> <p>Combustible</p> <p>May contain asbestos, a known carcinogen</p>













PRINTMAKING

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
<div>      </div>	<div> <p>AVOID whenever possible</p> <p>Wear gloves</p> <p>Use fume hood or back venting</p> <p>Wear dust mask</p> <p>Wear gloves</p> <p>AVOID using spray-on coatings</p> </div>	<div> <p>Use non-toxic glues</p> <p>Brush-on protective coatings</p> </div>
<div>   </div>	<div> <p>Wear gloves</p> <p>Wash hands thoroughly after work</p> </div>	
<div>   </div>	<div> <p>Wear gloves</p> <p>Use dilution venting</p> </div>	
<div>     </div>	<div> <p>Wear goggles</p> <p>Use fume hood or dust mask</p> <p>Wear gloves</p> <p>Wet mop clean up</p> <p>Do not use type containing asbestos</p> </div>	<div> <p>Use ready-made gum etch</p> <p>Use Johnson's Baby Powder or any non-asbestos talc and avoid inhalation</p> </div>








PRINTMAKING










MATERIAL	SYMBOL	HAZARD
<u>STONE PROCESSING</u>		
Block out liquid asphaltum		Skin irritant
Counter etch alum		Skin irritant Skin allergies
Lithotine solvent		Skin irritant
<u>STONE CLEANING</u>		
Gum arabic		Skin irritant Skin allergies
Phosphoric acid		Highly corrosive
Phenol Caustic soda	 	Toxic by inhalation Toxic by skin contact
<u>METAL PLATE PROCESSING</u>		
Acids acetic acid hydrochloric acid nitric acid phosphoric acid		See ACID section

PRINTMAKING








SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
	Wear gloves	
 	Wear goggles Wear gloves	
	Wear gloves	
  	Wear dust mask Wear gloves Wet-mop clean up	
 	Wear flexible hooded goggles Wear gloves	
  	Wear goggles Wear neoprene gloves AVOID USE if possible	
	See ACID section	

PRINTMAKING





MATERIAL	SYMBOL	HAZARD
<u>METAL PLATE</u> <u>PROCESSING</u> Potassium dichromate or Potassium etch alum chrome		Skin irritant Skin allergies
Vinyl lacquers	 	Suspected carcinogen Highly toxic hydrocarbons
Solvents		See SILKSCREEN section
<u>PHOTO LITHOGRAPHY</u> Sensitizing solutions Alkalis	 	See PHOTO STENCILS Corrosive to eyes Corrosive to skin
4. <u>RELIEF PRINTING</u> <u>WOOD CUTS</u> <u>ENGRAVING</u> beach wood box woods	 	Toxic-see SCULPTURE-wood Skin irritant may cause dermatitis Cuts from tools

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
	Wear gloves AVOID skin contact	
	Wear dust mask	
	Wear gloves	
	Wear gloves	
	Use proper venting	
 	Wear hooded goggles Wear gloves	
 	Wear dust mask Wear gloves or protective hand cream Use stop blocks Use tools properly	

PRINTMAKING

MATERIAL	SYMBOL	HAZARD
<div>RELIEF PRINTING</div> <div>LINO BLOCK</div>		Cuts from tools
<div>PRINTING INKS</div> <div>Pigments</div> <div>Solvents</div>		<div>See PIGMENT chart</div> <div>See SOLVENT chart</div>
<div>5. SILKSCREENING</div> <div>PRINTING INK</div> <div>pigments</div>		<div>See PIGMENT chart</div>
<div>SOLVENTS</div> <div>Benzene</div> <div>Kerosene</div> <div>Turpentine</div> <div>Mineral spirits</div>	<div>       </div>	<div>Skin irritant may cause allergies</div> <div>Carcinogen</div> <div>Toxic by inhalation</div> <div>Highly toxic by ingestion</div> <div>Flammable and combustible</div>










PRINTMAKING

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
	Cut away from yourself Use stop blocks Handle tools properly	
		Use water-based printing inks
	Do not ingest Wear gloves Clean equipment, while ink is wet, to avoid use of stronger cleaning agents once ink has dried	Use water-based inks for all silk screening procedures
  	AVOID USE Use fume hood venting or good back venting for small amounts of solvent All solvent-soaked rags should go in proper self-closing disposable can Store all flammables in proper storage containers	Use BENZINE not benzene Use Acetone, which is only slightly toxic








PRINTMAKING

MATERIAL	SYMBOL	HAZARD
<div>LACQUER THINNERS</div> <div>Chlorinated Hydrocarbons</div> <div>toluene</div> <div>tolnol</div> <div>xylene</div> <div>xylol</div>	<div></div> <div></div> <div></div> <div></div>	<div>Toxic by inhalation</div> <div>Toxic by ingestion</div> <div>Skin irritant</div> <div>Flammable</div>
<div>BLOCKOUTS</div> <div>Shellac</div> <div>Tusche</div> <div>Varnishes</div>	<div></div> <div></div> <div></div>	<div>Toxic by ingestion</div> <div>Flammable</div> <div>Flammable</div>
<div>FILM STENCILS</div> <div>Lacquer types</div> <div>Emulsions</div> <div>Stencil removers</div>	<div> H</div> <div> H</div>	<div>Highly toxic by inhalation</div> <div>Highly toxic by ingestion</div>
<div>PHOTO STENCILS</div> <div>Unsensitized solution</div> <div>ammonium dichromate</div>	<div></div> <div></div> <div></div> <div></div> <div></div>	<div>Eye irritant</div> <div>Respiratory irritant may cause allergies</div> <div>Skin irritant</div> <div>Carcinogen</div> <div>Flammable</div>







PRINTMAKING

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
 	Use fume hood Use respirator with organic vapor filter See RESPIRATOR chart N.B. Respirators are a last resort as they must be individually fitted to be effective	
  	Do not ingest Wear gloves Use fume hood, respirator, back venting Rags soaked with varnish should be stored in proper self-closing can Clean hands with soap and water	Use water-based glues, frisket, liquid wax, wax crayons or paper stencil
 	Use fume hood Use vapor mask as a last resort	Use water-based emulsion films
 	Wear goggles Do not ingest Wear gloves Store Ammonium Dichromate away from heat	Use pre-sensitized solutions

PRINTMAKING

MATERIAL	SYMBOL	HAZARD
<u>PHOTO STENCILS</u> Sensitized solutions silver nitrate caustic soda	  	Eye irritant Ingestion irritant Skin irritant
<u>INDIRECT EMULSION</u> Hydrogen peroxide		Skin irritant in concentrated form
<u>DIAZE SENSITIZERS</u> Presensitized Unsensitized		Eye irritant
<u>CARBON ARCS</u>	 	Eye damage Highly toxic fumes

PRINTMAKING

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
 	Wear goggles Do not ingest Wear gloves	Use pre-sensitized solutions
	AVOID ingestion Wear goggles	
	Wear goggles N.B. WASH IMMEDIATELY WITH WATER IF SPLASHED ON HANDS OR EYES	Use pre -sensitized solutions
 	Wear proper welding goggles # 14 shade Use proper venting	Use photo flood or sun lamp Quartz mercury lamp Use metal halide lamp-avoid looking at light as it will burn your retinas