

Safety awareness is an important component in the Art Education program.

Attention must be given to the safe storage of Art materials, the safe handling of tools, equipment and machinery, and a safe working environment.

A safety awareness program should be comprised of:

- * TEACHING - Instruction must be provided regarding the proper use of materials, tools and processes.
- * MODELING - The maintenance of a safe and hazard free environment for both student and teacher provides a powerful model for promoting safe working habits.
- * AWARENESS - Educate students regarding materials to be avoided, alternatives, and provide the opportunity for learning to handle and use materials safely.



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ACKNOWLEDGEMENTS

Thank you to the following for their ideas, research, writing and formatting suggestions while preparing the Art Safety Handbook:

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GENERAL SAFETY AWARENESS

GENERAL SAFETY PRACTICES

SAFE HOUSEKEEPING PRACTICES

1. Avoid the creation and accumulation of any dust such as that from pencils, charcoal, chalks, pastels, powder paints, clay, plaster, rocks, wood, and fibre.
2. Avoid the inhalation of vapors and fumes from felt pens, glues, paints, or any other substance. Use these only with adequate ventilation.
3. Vent all kilns to the outside. Firing of clay and glazes causes toxic metal fumes highly hazardous to health.
4. Never allow sprays and fixatives to be inhaled. Be aware that invisibly small particles remain suspended in the air for up to three hours. Never use spray cans indoors unless you have a local exhaust spray booth.
5. Avoid highly toxic materials such as turpentine, benzene, carbon tetrachloride, asbestos, lead, mercury, and cadmium since small amounts can have severe effects on major internal organs such as the heart, lungs, kidney, intestinal system, and nervous system.
6. Do not mix food and art materials. Avoid all ingestion. Wash hands thoroughly before eating.
7. Review safety practices regularly and display safety posters conspicuously.
8. Sharp tools such as x-acto knives, linoleum, and wood carving tools should not be used below the 5th grade and then only after thorough safety instruction and with close supervision.
9. Store and handle art materials safely.

CHOOSING SAFER ART MATERIALS

1. Whenever possible, use water-based instead of oil or solvent-based materials. Avoid permanent markers. Their fumes can cause permanent nervous system damage.
2. Use ready-mixed paints rather than powdered paints to avoid the inhalation of pigment dusts during the mixing process. Never allow children near tempera powders since many pigments are highly toxic, containing cadmiums, lead, zinc, mercury, arsenic, and other dangerous carcinogens and mutagens.
3. Use waxy crayons and oil pastels rather than chalky sticks to avoid the creation and inhalation of dust.
4. Use the safer acetone and mineral spirits instead of the highly toxic aromatic and chlorinated hydrocarbons found in lacquer thinners and degreasing solvents. Always use in well-ventilated areas only.

PROVIDE A SAFE ENVIRONMENT

Good Housekeeping	Maintain a clean and functional art work space. Dispose of waste materials in appropriate containers.
Tools and Equipment	Be responsible for safe placement and maintenance of all tools and equipment in the art room. Provincial safety regulations calling for the use of face or eye shields, machine guards, and other protective devices must be strictly enforced.
Storage	Provide proper storage for all hazardous materials.
Lighting	Provide for the appropriate type and amount of light for each art activity (see lighting section).
Ventilation	Be informed about adequate ventilation procedures necessary for each specific art activity.
Supervision	Remain in the art room while students are present.

MISLEADING LABELING

Most art materials designed for children are labeled "nontoxic."






The term "**toxic**" is defined by the Federal Hazardous Substances Act as a substance (radioactive material excluded) which can cause injury or illness to man through ingestion, inhalation, or absorption via any body surface. The main problem is that products are tested only for immediate and acute toxicity, such as skin and eye irritation, stomach aches, and respiratory irritation. The Hazardous Substances Act does not require testing for long-term effects such as chronic poisoning, cancer, damage to the nervous system, allergies, chronic lung diseases, and birth defects. Also, smaller manufacturers do not have the resources to carry out extensive toxicological tests. The label "nontoxic" on a product can be very misleading.

The one association of manufacturers that is certified by an authority of toxicology and that does make reliable tests is The Crayon, Watercolor, and Craft Institute. Its products carry the seal CP (Certified Products) or AP (Approved Products). The seal implies that the approved art materials contain no harmful materials in sufficient quantities to be harmful to the body even if ingested by a child.



MATERIAL HAZARDS

HAZARD SYMBOLS

HAZARDS

Eye	 H	 M	 L
Nose	 H	 M	 L
Mouth	 H	 M	 L
Hand	 H	 M	 L
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	

DRAWING

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DRAWING











The process of drawing requires direct contact with and manipulation of a variety of drawing tools and materials.

Although many drawing materials are labelled non-toxic, care must be taken to avoid creation and inhalation of the dusts or powders found in chalk, conté crayon, graphite, or charcoal. The solvents found in permanent felt pens also pose an inhalation hazard.











Avoid ingestion of pigments and drawing materials either directly or indirectly through such simple practices as eating or drinking in the studio. The colourants, in some cases, are a hazard even though the amount of pigment in the material may be minimal.

Care should be taken to avoid entry of contaminants into the body through excessive skin contact. Cover cuts or abrasions to avoid absorption into the blood stream. Washing hands with soap and water after using drawing materials, is a good practice to adopt.











DRAWING

MATERIAL	SYMBOL	HAZARD
<u>CHALKS/DRY PASTELS</u> Free silica/ asbestos Pigments Gum arabic Gum tragacanth	 H  H  M	Silicosis or lung cancer Pigment powder - see table of hazardous pigments Respiratory allergies, asthma Skin allergies
<u>CHARCOAL</u> carbon black	 M  M	Human carcinogen Respiratory irritation Skin cancer with prolonged use
<u>COLORED ACETATE INKS</u> acetate solvents	 M  M	Eye, nose, throat irritant
<u>COLOURED DRAWING INKS</u> benzedine type dyes	 H  M	May contain benzedine-type dyes Bladder cancer
<u>CONTÉ CRAYON</u>	 L	No significant hazards See Table of Hazardous Pigments









DRAWING

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
  	<p>Wet mop cleanup</p> <p>AVOID inhalation</p> <p>Remove excess dust off page by tapping edge of paper on desk. *Do not blow dust off page.</p> <p>AVOID ingestion.</p> <p>Wash hands with soap and water after use.</p>	<p>Oil pastels.</p>
 	<p>Wet mop cleanup.</p> <p>AVOID creating and breathing dust.</p> <p>Wash hands with soap and water after use.</p>	<p>Conté crayon.</p>
 	<p>AVOID ingestion and skin contact</p>	<p>Use water soluble ink with small amount of detergent.</p> <p>Roughen plastic with steel wool - helps ink adhesion.</p> <p>Use coated acetate that will take ordinary ink.</p>
	<p>AVOID skin contact.</p>	<p>Use food colouring.</p> <p>Use those labelled non-toxic</p>
 	<p>AVOID creation and circulation of dust or powder.</p> <p>AVOID ingestion - wash hands after use.</p>	










DRAWING

MATERIAL	SYMBOL	HAZARD
<u>FELT TIP MARKERS</u> <u>PERMANENT</u> Organic solvents xylene Dye and pigment	 H  H  M	Narcosis, liver, kidney and brain damage Permanent damage to nervous system Skin irritant
<u>FELT TIP MARKERS</u> <u>WATER SOLUBLE</u> Pigment	 M	Slight hazard depending on pigment used.
<u>FIXATIVE</u> Atomizer Aerosol spray Air compressor Organic solvent	 H  H 	Liquid droplets deposited in lung Hazard depends upon particular solvent See solvent appendix Freezing, blistering of skin, if sprayed. Flammable
<u>GLUE</u> Muselage Contact adhesives Rubber cement Epoxy	 L-H	See ADHESIVES
<u>GRAPHITE</u> carbon black free silica	 H 	Silicosis








DRAWING

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
   	<p>Vapor mask</p> <p>AVOID inhalation of fumes</p> <p>Venting</p> <p>AVOID use at elementary school level</p> <p>Wash hands with soap and water after use</p>	<p>Water-based felt markers</p>
	<p>AVOID ingestion</p>	
  	<p>Spray in vented spray cabinet</p> <p>Use vapor masks</p> <p>Wear ear plugs when using compressor</p> <p>AVOID use in elementary school</p>	
		<p>Use non-toxic white glue or PVA (polyvinyl acetate emulsion)</p>
	<p>AVOID creation and breathing of dust and powder</p>	<p>Use paper stomp for blending</p>



DRAWING

MATERIAL	SYMBOL	HAZARD
<u>GUM ARABIC</u> Binder for oil and chalk pastels	 M  L	Respiratory allergies/asthma
<u>GUM TRAGACANTH</u> Binder for oil and chalk pastels	 L  L  L	Respiratory irritant Slightly toxic to skin
<u>INDIA INK</u> carbon black hydro carbons	 H	Pulmonary edema, aplastic anemia, leukemia
<u>OIL PASTELS</u> pigment		Hazard depends on pigment used
<u>PAPER</u> Fungicides mercury Dye azor benzidine Flame proofing borax compounds	 H  H  L	Mercury poisoning Bladder cancer Nausea, rash, kidney damage





DRAWING

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
	AVOID contact with cuts and eczema	Use prepackaged pastels
	AVOID contact with cuts and eczema	Use prepackaged pastels
	AVOID ingestion AVOID skin contact - use rubber gloves for spills	Use non-toxic types of ink
 	AVOID ingestion Wrap paper towel around crayons to avoid skin contact Wash hands after use	
 	Avoid chewing and eating paper Use caution with wet, coloured paper as dyes may penetrate skin more easily	

DRAWING

MATERIAL	SYMBOL	HAZARD
<p>PENCILS <u>PENCIL CRAYONS</u></p> <p>carbon black</p> <p>pigments</p>	<p> L</p>	<p>Paint on outer coating may contain lead causing liver and kidney damage</p> <p>Carcinogen</p> <p>Pigment poisoning</p>
<p><u>WAX CRAYONS</u></p> <p>pigments</p>	<p></p>	<p>Toxic depending on brand</p> <p>Solvents may be present in the wax</p>

DRAWING

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
 	<p>AVOID ingestion</p> <p>Use tissue or paper stomp for blending</p> <p>Wash hands with soap and water after use</p>	<p>Use harder rather than softer lead</p> <p>Use non-toxic pencil crayons</p>
 	<p>AVOID ingestion</p> <p>Wash hands with soap and water after use</p>	