


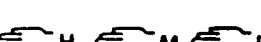
















MATERIAL HAZARDS

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	

SILVERSMITHING

1. METAL FABRICATION	2.154
Annealing	
Cutting/Piercing/Filing	
Forging	
2. METAL CASTING	2.154
Channel Molds	2.154
Casting Sand Molds	2.156
Lost Wax Molds	2.156
Pouring Metal/Pouring Metal	2.158
Sand Molds	2.158
3. METALWORK	2.160
4. CLEANING, POLISHING, FINISHING	2.162
Brushing/Polishing	
Pickling	
Sandblasting	

SILVERSMITHING

Silver soldering temperatures are about 650-815 degrees C. or 1200-1500 degrees F..

Silver solder may contain cadmium and release fumes which can be fatal.

Contact with the torch flame and hot or molten metal can cause severe burns.

Fumes from fluxes may cause inhalation irritation . Use with proper ventilation. Use safe fluxes which do not release harmful fumes.

Various casting methods such as channel molds, sand molds, and lost wax molding all involve potentially hazardous processes and materials. Silica dusts in all three processes pose an inhalation hazard. Use respirators and proper ventilation in the studio.











Wear protective goggles and aprons when soldering and melting metals to avoid burns from molten metal.

Handle tools, files, saws, snips, and engravers properly to avoid cuts and burns.











Cleaning and detaching silver with sparex and acids must be done in a properly vented work space. Use proper tongs, basins and storage bottles for these processes. Always wear proper gloves and goggles when using this procedure.

Wear goggles when grinding and polishing to avoid flying pieces of metal or particles of polish.











SILVERSMITHING

MATERIAL	SYMBOL	HAZARD
<u>METAL FABRICATION</u> <u>ANNEALING</u> Fuel gases propane acetylene oxygen Sparex sodium bisulfate Sulfuric acid	    	Fire and explosive hazards See SCULPTURE- Welding Corrosive to eyes and skin Corrosive to eyes and skin
<u>CUTTING</u> <u>PIERCING</u> <u>FILING</u> Silver particles	 	Metal filings can cut eyes and skin Silver particles imbedded in skin can cause localized argyria or blue black discoloration
<u>FORGING</u> Noise Carbon monoxide	 	Hearing damage Avoid inhalation of fumes Thermal burns
<u>METAL CASTING</u> <u>CHANNEL MOULDS</u> Investment plaster free silica Pumice		Inhalation irritant Silicosis







SILVERSMITHING

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
  	<p>Wear goggles</p> <p>Wear gloves when mixing or handling acid</p> <p>Use with proper ventilation</p>	
 	<p>Wear goggles</p> <p>AVOID getting silver particles in cuts</p> <p>Wash hands after use</p>	
 	<p>Wear ear plugs if noise is at a high level</p> <p>Wear gloves</p> <p>Work in properly ventilated area</p>	
  	<p>Mix investment in fume hood</p> <p>Wear approved respirator</p> <p>Wet mop cleanup</p>	<p>Use non-silica investment</p>












SILVERSMITHING

MATERIAL	SYMBOL	HAZARD
<div><div>METAL CASTING</div><div>CUTTLE BONE MOULDS</div><div>Dust</div><div>Borax flux</div><div>aqueous sodium silicate</div><div>Waterglass</div></div>	<div><div> M</div><div></div><div></div></div>	<div>Respiratory irritation</div> <div>Allergies</div> <div>Toxic to skin and eye contact</div> <div>Alkali burns</div>
<div><div>LOST WAX MOLDS</div><div>Investment plaster</div><div>silica fiber</div><div>cristobalite</div><div>asbestos powder</div><div>Shell molds</div><div>Slurries</div><div>silica solutions</div><div>zircon</div><div>fused silica</div><div>ethyl silicate</div><div>Wax</div><div>hydrocarbons</div></div>	<div><div> H</div><div> H</div><div><div></div><div> H</div><div> H</div><div><div></div><div> H</div></div></div></div>	<div>Silicosis</div> <div>Lung and stomach cancer</div> <div>Silicosis</div> <div>Eye irritation</div> <div>Ingestion may cause liver and kidney damage</div> <div>Eye irritation</div> <div>fumes from wax burnout</div>














SILVERSMITHING

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
 	<p>Clean cuttle bone to avoid possibility of infection</p> <p>Wet sanding technique to avoid creating dust</p> <p>Wear goggles</p> <p>Wear gloves</p>	
   	<p>Use proper respirator and proper venting when dry mixing</p> <p>Wet-mop cleanup</p> <p>Avoid ingestion</p> <p>Use proper ventilation. If you can smell it , improve ventilation</p> <p>Use with proper ventilation</p>	








SILVERSMITHING

MATERIAL	SYMBOL	HAZARD
<u>METAL CASTING</u> <u>MELTING METAL</u> <u>POURING METAL</u> Lead Pewter } Lead Bronze Bronze } Zinc Brass Nickel nickel carbonyl gas	  H   M  H  H	 Lead poisoning Metal fume fever Gas can be fatal Carcinogen - lung and nasal cancer
Molten metal infrared radiation	 H  H	Eye damage Thermal burns
<u>SAND MOLDS</u> High silica sand	 H	Silicosis
Setting resin	 H  H  H	Allergies Toxic by ingestion Skin irritation and allergies








SILVERSMITHING

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
<div>      </div>	<div> <div>Wear respirator</div> <div>Use with proper ventilation</div> <div>Wear respirator</div> <div>Use with proper ventilation</div> <div>AVOID use</div> </div>	
<div>   </div>	<div> <div>Wear infrared goggles, a face shield, and apron</div> </div>	<div> <div>Ensure centrifugal casting equipment is properly balanced to avoid flying molten metal</div> </div>
<div>   </div>	<div> <div>Use respirator</div> <div>Wear gloves</div> </div>	
<div>     </div>	<div> <div>Wear goggles when using resin</div> <div>Use respirator or dust mask</div> <div>Use proper ventilation</div> <div>Wear gloves</div> </div>	













SILVERSMITHING

MATERIAL	SYMBOL	HAZARD
<div><div><u>SOLDERING</u></div><div><u>FUEL GASES</u></div><div>Propane</div><div>Acetylene</div><div>Oxygen</div></div>	<div></div> <div></div>	<div>Fire and explosive hazards</div> <div>See SCULPTURE - Welding</div>
<div><div><u>FLUX</u></div><div>Flouride fumes</div></div>	<div> H</div>	<div>Respiratory irritation may cause nosebleeds and ulceration</div>
<div><div><u>SILVER SOLDER</u></div><div>Cadmium</div></div>	<div> H</div> <div></div>	<div>Highly toxic gas</div> <div>Kidney damage, lung and prostrate cancer</div> <div>Thermal burns</div>
<div><div><u>CLEANING</u></div><div><u>POLISHING</u></div><div><u>FINISHING</u></div><div><u>GRINDING /POLISHING</u></div><div>Wire brush buffing wheels</div></div>	<div> H</div> <div> H</div>	<div>Flying dust, metal particles and particles from polishing abrasives</div> <div>Dust allergies</div>











SILVERSMITHING

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
	See SCULPTURE -Welding	
 	Wear respirator Work in properly ventilated area	
 	Wear respirator Work in properly ventilated area	
  	Wear goggles Wear dust respirator Machinery should be properly vented	

SILVERSMITHING

MATERIAL	SYMBOL	HAZARD
<u>GRINDING/POLISHING</u> Pumice Rouge abrasive material Tripoli silica	  	Particles hitting the eye Avoid inhalation of dust Silicosis
<u>PICKLING</u> Nitric acid Sulfuric acid sulfur dioxide Sparex sodium bisulfate	 H  H  H   	Toxic eye irritant Inhalation irritation especially to asthmatics Burning and blistering of skin May cause dermatitis
<u>SANDBLASTING</u> Sand Carborundum Air pressure	  H 	Eye irritant Silicosis from breathing sand containing silica Skin abbrasion

SILVERSMITHING

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
  	<p>Wear goggles</p> <p>Wear dust respirator</p> <p>Use holding device for polishing</p> <p>Wash hands after use</p>	
   	<p>Wear goggles</p> <p>Use respirator mask</p> <p>Use in fume cupboard</p> <p>AVOID boiling as it may cause it to splash onto skin or eyes</p>	
  	<p>Wear goggles</p> <p>Wear proper dust mask</p> <p>Wear gloves</p>	<p>Use carborundum or glass beads instead of sand</p>