Safety as a Component of Creating Art

Facts, Knowledge, Workspace, Personal Practices, and Medium-Specific Hazards
OUTLINE

• Why Art Safety?
• Risk
• “Creating Art Safely” Video
• Ideal Work Environment
• Safe practices
• Labels Indicating Risk and Hazards
• Signs of Exposure
• Proper Waste Disposal
• Mediums of Art
• Risk and Risk Assessments – High Risk/ Low Frequency
• UO Emergency Procedures
• Knowledge Resources/ References
Why Art Safety?

- Health and Safety Issues
- Environmental Issues
- Fire Safety
- Hazard Communication
- Community Right to Know
- Inform/Educate/Create
Similar Risk For Chemical Industry Workers and Artists

Risk Factors
• Body Burden
• Dose
• Environment
• Precautions
• Susceptibility

Chemical-Specific Hazards
• Adhesives
• Dusts
• Dyes
• Metals
• Pigments
• Powders
• Preservatives
• Alcohols
• Aliphatic Hydrocarbons
• Aromatic Hydrocarbons
• Chlorinated Hydrocarbons
• Glycol Ethers
• Ketones
• Turpentine
• Citrus Cleaners

Reactions to Exposure
• Acute
• Chronic (latency periods)

Ailments due to lack of knowledge
• Marie Curie → aplastic pernicious anemia (radium/ radioactivity)
• Goya → plumbism (lead)
• Van Gogh → mental illness (camphor, turpentine, absinthe)
Sources of Risk

Types of Hazards
- mechanical
- Chemical

States of matter and Routes of Exposure
- Respirable solids
- Fumes
- Vapors
- Toxic/flammable liquids

Chemical Hazard Classification
- Toxic/Non-toxic
- Carcinogen
- Reproductive Toxin
- Anesthetic
- Asphyxiant

- Oxidizer
- Combustible
- Flammable
- Explosive
- Corrosives

Hierarchy of Controls
- Design
- Engineering
- Personal protection
A Six Step-Process for Creating Art Safely

Creating Art Safely: A Six-Step Process | Yale Environmental Health & Safety
Ideal Work Environment

- Kept up – diligently
- Ventilation – appropriate/adequate
  - General (dilution) vs. Local
- Wastes – disposed properly
- Fire – managed risks & prevention
**Best Design & Work Practices**

**Ventilating the Indoor Environment:**
Ventilation controls heat, humidity, removes airborne hazards, prevents fire & explosion.
Local exhaust employed for high hazards.

**Storage practices that minimize hazards:**
Compliance with regulation.
Storage segregated from Use.
Small quantity containers & numbers.
Closed containers.
Labeled containers.
No high-piled storage.
Separate incompatibles.
Flammable cabinets and Safety Cans.
Rag cans – empty nightly.
Spill kits at the ready.

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**Life/Safety practices:**
Practiced emergency procedures.
Practice use of Fire Extinguishers.
Store minimum flammables needed for work.
Remove all sources of ignition.
Transfer liquids in small quantities.
Keep exits clear (esp. combustibles).
Inspect studio regularly.
Involve professional staff in responses to large spills of flammables.
Wear appropriate protective clothing.
Keep an accurate inventory of flammable materials.
Discard old and unused materials.
Evaluate MSDS and SDS for hazards & response guidance.
Ensure functionality of smoke/fire detection apparatus.
Work practices
Storage practices
Labels Indicating Risk and Hazards

Labeling & Hazard Communication

- ACMi approved/certified products
  - AP = Non-Toxic
  - CL = Certified to have adequate hazard warning information
- Hazardous Materials
  - OSHA MSDS
  - OSHA SDS
  - NFPA labeling
  - HMIS labeling
  - GHS labeling

Danger – hazards can cause serious injury (blindness, amputation) or death.
Warning – hazards can cause less than serious injuries.
Caution – warning that users should be careful when using, handling, or storing a chemical.

OSHA-SDS Format for Chemical Manufacturers

1. Identification
   - Global product identifier
   - Other means of identification
   - Recommended use of the chemical and restrictions on use
   - Supplier information
   - Emergency phone number

2. Hazards Identification
   - Classification of the chemical in accordance with paragraphs 8 of §1480.12, 1200
   - Signal word, hazard statement(s), precautionary statements (P) in accordance with paragraph 6 of §1480.1200 (signal words may be modified to emphasize the reproductive effects or toxic effects of the substance)
   - Hazard statement other than those classified that have not been identified during the classification process
   - Where an ingredient with unknown acute toxicity is used in a mixture at a concentration > 1% and the mixture is not classified based on testing of the mixture as a whole, a statement that 1% of the mixture consists of ingredient(s) of unknown acute toxicity is required.

3. Composition/Information on ingredients
4. First aid measures
5. Fire fighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure controls/personal protection
9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory information
16. Other information

Create your own GHS Labels

With GHSLabelPrinters and supplies, it’s easy to create custom safety and health communication labels. GHSLabel™ software includes 7 different label formats tailored to specific applications. See your supplier for details.
Protect Yourself and Know Signs of Exposure

- Good personal hygiene
- Use of protective attire
  - Clothing
  - Gloves (what, why)
  - Eye Protection
  - Respiratory protection through UO Program
- Symptoms of Exposure
- First Aid – be prepared
- Medical Attention

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Possibilities</th>
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</thead>
<tbody>
<tr>
<td>Skin dryness, itching, inflammation</td>
<td>Solvents, resins, cutting oils, fiberglass, photochemicals</td>
</tr>
<tr>
<td>Eye inflammation, irritation, tearing</td>
<td>Acid/alkali vapors, dusts, gases, smoke, sprays</td>
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<tr>
<td>Ear ringing, deafness</td>
<td>Noise, caffeine, quinine, hydroquinones</td>
</tr>
<tr>
<td>Sneezing, runny nose, cough, sore throat</td>
<td>Dusts, fumes, gases; vapors from solvents, printmaking, photochemicals</td>
</tr>
<tr>
<td>Wheezing, shortness of breath</td>
<td>Dusts and powders (rosin, silica); alkali, photochemical, and solvent vapors</td>
</tr>
<tr>
<td>Flu-like</td>
<td>Metal fumes</td>
</tr>
<tr>
<td>Dizziness, drowsiness, headache, body tingling</td>
<td>Solvent vapor inhalation, asphyxiants gases, carbon monoxide, cyanide</td>
</tr>
<tr>
<td>Abdominal discomfort</td>
<td>Photo and printmaking chemicals; solvents</td>
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All waste bottles should be labeled/tagged when accumulation starts.
Hazardous Waste Pick-Up

Environmental Health and Safety (EHS) collects hazardous materials in several categories for disposal, treatment or recycling for all UO departments.

Contacts

- Seth Sponcy, Hazardous Waste Program Coordinator (P) 541-346-2348
- Ben Bythell, Hazardous Materials Manager, Chemical Safety Officer, (P) 541-346-0371

Process

Hazardous Waste Pick-Ups

Submit a service request through the Environmental Health and Safety Assistant (EHSA) online system here:

PLACE A WASTE PICKUP REQUEST

- Click here for first time login instructions
- Click here for a waste submittal GUIDE
- Click here to learn how to access the Chemical Exchange/Re-Use inventory

Please allow three business days for collection.
Mediums of Art

- Drawing
- Painting
- Printmaking
- Photography
- Jewelry & Metalsmithing
- Sculpture
- Woodworking

Tattoo & Body Art Safety
• Irritating Dusts (chalk, charcoal)
• Solvent-based inks
• Toxic pigments (e.g. chrome yellow, PbCrO4)
Painting

- Volatile solvents; toxic pigments
  - Hg not prohibited in art paints (vs. interior house)
  - Aerosols

- Latex & Water-based products
  - Glycol ethers & possibly formaldehyde (preserv.)

- Fresco – potentially corrosive/toxic lime, CaOH

- Volatile/toxic strippers & cleaners
  - Acetone, Methanol, Toluene, Methylene Chloride

*Hg is mercury
Printmaking

- Dusts, Inks, Etchants, Resists, Stone/Plate Cleaners, Solvents, Mechanical Tools
  - Flammable, Toxic, Corrosive, Physical injury
    - Ferric chloride, acids, Dutch Mordant (KClO4, HCl, H2O)

- Mitigating risks
  - Hazard Communication
  - Risk analysis
  - Protective mechanisms
Photography

• Dusts, Developers, Stop Baths, Fixers, Intensifiers, Toners
  – Flammable, toxic, mutagen, corrosive, oxidizers
    • Hydroquinone, acetic acid, boric acid, potassium dichromate (hexavalent chromium), potassium ferricyanide, heavy metals, sulfides, silver salts, bleach, potassium permanganate.

• Mitigating Risks
  – HazCom, Risk Analysis, Substitution, Protection
Glass, Jewelry, Metalsmithing

- Dusts, Stains, Fluxes, Solder, Fumes, Plating Solutions, Pickle, Welding
  - Flammable, toxic, corrosive, carcinogen
- Temperature, Non-ionizing Radiation
  - Burns, fatigue

- Mitigating Risks – HazCom, Risk Analysis, Substitution, Protection
Sculpture

- Dusts, Pigments, Borax, Lime, Acids, Finishing products
  - Irritants, toxics, corrosives, flammables
- Tools & Toolwork

- Mitigating Risks – HazCom, Risk Analysis, Substitution, Protection
Woodworking

- Dusts, Engineered Wood Products, Finishing Products, Adhesives
- Tools & Toolwork
- Mitigating Risks – HazCom, Risk Analysis, Substitution, Protection, Guarding
Woodshops

The Lawrence Hall Woodshop and the Millrace Woodshop are both located in Eugene, and managed by Facilities Support Services.

The Lawrence Hall Woodshop is a tool resource for students currently enrolled in College of Design courses. The Millrace Woodshop is for Product Design and Interior Architecture scheduled classes.

The open shop environment has been created to provide a safe, and professionally supervised space in which students can create high-quality projects, while learning skills that further prepare them to excel in their chosen careers.

Fall/ Winter/ Spring Term Hours
Monday, Tuesday, Wednesday, Thursday
10:00 AM – 12:00 PM, 1:00 PM – 7:00 PM
Risk Assessment

https://www.youtube.com/watch?v=GvOSoTA4JMg&pp=ygUdZ29yZG9uIGdyYWhhbSByaXNrIGFzc2Vzc21lbnQ%3D
UO Emergency Procedures

- Familiarize yourself with this Poster.

- It contains information regarding what to do, and the numbers to call in the case of various Emergencies.

- Copies are posted throughout campus.
Environmental Health and Safety

Environmental Health & Safety (EHS) promotes compliance and responsible behaviors as exemplified and required by health, safety, and environmental standards, codes, regulations, and university programs. The department provides educational, monitoring, problem-solving, and support service functions to the entire university community.

What can EHS do for you?
Books on Art Safety

Books

“Artist Beware”, Michael McCann, PhD, CIH

“The Artist’s Complete Health and Safety Guide”, Monona Rossol, MS, MFA

“Overexposure: Photography Hazards”, Susan Shaw and Monona Rossol

“Making Art Safely”, M. Spandorfer, D. Curtiss, J. Snyder, MD

“Stage Fright: Health & Safety in Theater”, Monona Rossol, MS, MFA

“Health Hazards Manual for Artists”, Michael McCann, PhD, CIH
Knowledge Resources

Regulatory
• U.S. Occupational Safety and Health Act
• U.S. Consumer Product Safety Commission
  — “Art and Craft Safety Guide”
    www.cpsc.gov Publication 5015
• U.S. Environmental Protection Agency
• OSHA HazCom
• CDC - NIOSH
• ICC Life/Safety Codes

Peer
• Art and Creative Materials Institute:  https://www.acmiart.org/
• Arts, Crafts & Theater Safety:
  https://www.artscraftstheatersafety.org/lectures.html
• City of Tucson, Health & Safety in the Arts:
  https://www.tucsonaz.gov/Government/Office-of-the-City-Manager/Community-Safety-Health-Wellness