



Safety as a Component of Creating Art

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

- Facts of Work in the Arts
- Review Video – “Creating Art Safely”
- Knowledge Resources
- An Ideal Working Environment
- Individualized Mechanisms of Staying Healthy
- Difference, and Similarity, among Artistic Mediums
- Risk and Risk Assessments – High Risk/Low Frequency

PROGRAM CONTENTS

Why Art Safety?

- Health and Safety Issues
- Environmental Issues
- Fire Safety
- Hazard Communication
- Community Right to Know
- **Inform/Educate/Create**



Fact Comparison

Chemical Industry Workers

1. Historical ailments due to lack of knowledge (e.g. Marie Curie)
2. Hazards
3. States of Matter and Routes of Exposure
4. Reactions to Exposure
5. Risk Factors
6. Chemical Hazard Classification
7. Chemical-specific hazards
8. Hierarchy of Controls

Artists

1. Goya → plumbism; van Gogh → mental illness (camphor, turpentine, absinthe)
2. Mechanical, Chemical
3. Respirable solids, fumes, vapors, toxic/flammable liquids
4. Acute, Chronic (Latency Periods)
5. Body burden, Dose, Environment, Precautions, Susceptibility
6. Toxic, NonToxic, Carcinogen, Reproductive Toxin, Anesthetic, Asphyxiant, Oxidizer, Combustible, Flammable, Explosive, Corrosives
7. Adhesives, Dusts, Dyes, Metals, Pigments, Powders, Preservatives, Alcohols, Aliphatic Hydrocarbons, Aromatic Hydrocarbons, Chlorinated Hydrocarbons, Glycol Ethers, Ketones, Turpentine, Citrus Cleaners
8. Design, Engineering, Personal Protection

Lets Review: “Creating Art Safely”

<http://www.yale.edu/ehs/onlinetraining/video/artsafety.htm>

Yale *Environmental Health & Safety*

Creating Art Safety - A Six Step Process

This video outlines the general safety procedures to be followed in the art studio and the importance of knowing the hazards of the materials and equipment handled. (20:23 minutes)





A&AA Studio Shop

AAA Studio Shop

Cutoff Saws
Jointers
Planers
Table Saws
Band Saws and Scroll Saws
Jigsaws and Reciprocating Saws
Stationary Sanders
Drill Presses
Routers
Power Nailers
Lathes
Circular Saws
Rotary Tools, Bench Grinders, and
Sharpeners
Drills and Drives
Radial Arm Saws
Building a Workcenter

Info

Video Info

[A&AA Studio Shop Blackboard](#)
[UO Environmental Health & Safety](#)

Contact

Tom Coates
Shop Tech
541-346-3767
tcoates@uoregon.edu

Woodworking Tools Videos

In collaboration with the University of Oregon's Environmental Health and Safety Department, Architecture and Allied Arts has purchased a series of videos from Films Media Group, titled Woodworking Tools.

This series correlates to competency standards for core curriculum and carpentry from the National Center for Construction Education & Research. A Shopware Production 16-part series, 12-22 minutes each.

Each video provides in depth information for proper and safe use of most tools found in the A&AA wood shops, and other wood shops on the U of O campus.



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: www.acminet.org
- Arts, Crafts & Theater Safety:
<http://www.artscraftstheatersafety.org/>
- City of Tucson, Health & Safety in the Arts:
<http://www.tucsonaz.gov/art hazards>

Labeling & Hazard Communication

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



Hazardous Materials Classification



HAZARDOUS MATERIALS IDENTIFICATION SYSTEM	
HAZARD INDEX	PERSONAL PROTECTION INDEX
4 = SEVERE HAZARD	A
3 = SERIOUS HAZARD	B
2 = MODERATE HAZARD	C
1 = SLIGHT HAZARD	D
0 = MINIMAL HAZARD	E
	F
	G
	H
	I
	J
	K
	X

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

- Identification***
 - GHS product identifier
 - Other means of identification
 - Recommended use of the chemical and restrictions on use
 - Supplier information (including name, address, phone number, etc.)
 - Emergency phone number
- Hazard(s) identification***
 - Classification of the chemical in accordance with paragraph (d) of §1910.1200
 - Signal word, hazard statement(s), pictogram(s) and precautionary statement(s) in accordance with paragraph (f) of §1910.1200. (Hazard reproductions in black and white or the name of the symbol, e.g., Flame, skull and crossbones)
 - Describe any hazards not otherwise classified that have 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 x% of the mixture consists of ingredient(s) of unknown acute toxicity is required.

GHS Label

Product Name → 1,1,2-Trichlorotrifluoroethane

Product Code (UN#, EC#, CAS#) → UN No. 3082 EC No. 200-936-1 CAS No. 76-13-1

Signal Word → **ANGER**

Hazard Statement → **HAZARD STATEMENTS**
Causes mild skin irritation. Causes eye irritation. Toxic to aquatic life with long lasting effects. Harms public health and the environment by destroying ozone in the upper atmosphere.

Precautionary Statement → **PRECAUTIONARY STATEMENTS**
Avoid release to the environment. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Pictograms →

Supplier Information → **SUPPLIER IDENTIFICATION**
Sigma-Aldrich 3050 Spruce St. St Louis, MO 63103 USA 3147766555
CONSULT SDS FOR ADDITIONAL INFORMATION ON HAZARDS

- Composition/information on ingredients
- First-aid measures
- Fire-fighting measures
- Accidental release measures
- Handling and storage
- Exposure controls/personal protection
- Physical and chemical properties
- Stability and reactivity
- Toxicological information
- Ecological information**
- Disposal considerations**
- Transport information** →
- Regulatory information**
- Other information**

**Not mandatory for OSHA compliance, but may be required by other agencies and/or governments.

*Sections #1 and #2 are expanded to help explain what information chemical manufacturers must provide for HCS OSHA-GHS labeling.

International-GHS Labeling TRANSPORTATION LABELS



Transportation labels may only be required in some countries or regions. The EU currently requires these on outside packaging. Labeling pictograms may appear in the **Hazard(s) Identification** section and/or **Transport** section of SDS.



Create your own GHS labels

With DuraLabel printers and supplies, it's easy to create custom safety and visual communication labels. DuraSuite™ software includes 7 different formats tailored to specific applications. See reverse for more details.

Books

“Artist Beware”, Michael McCann, PhD,
CIH

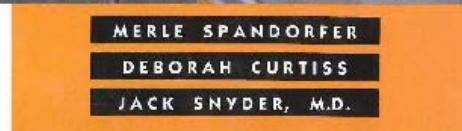
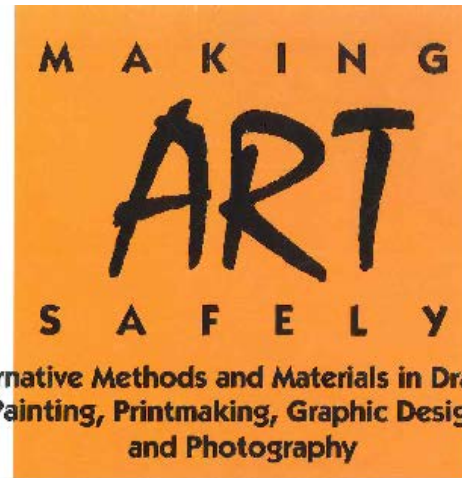
“The Artist’s Complete Health and
Safety Guide”, Monona Rossol, MS,
MFA

“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



Emergency Procedures

EMERGENCY—CALL 9-1-1

Call the Department of Public Safety at (541) 346-6666 for emergency assistance.

Building Power Outage

- Turn off and unplug computers and other electrical equipment if possible to do so safely.
- Move cautiously to a lighted area.

Suspicious Person

- Call (541) 346-6666 to report the situation.
- Do not physically confront the person or block exits.
- Do not let anyone into a locked building or office.

Suspicious Object

- Do not touch or disturb the object.
- Call (541) 346-6666 to report the situation.
- Notify your supervisor.

Person with a Weapon

- Move quickly to a safe place and call 9-1-1.
- Do not physically confront the person.

Earthquake

- Get under a table or desk or against an inside wall—not in a doorway—until the shaking stops.
- After the shaking stops, check yourself and others for injuries and evacuate the building.
- Go to your evacuation assembly point.
- Do not leave the area or campus before reporting to your instructor or building manager.

Hazardous Materials Release

- Move away from the site of the hazard to a safe location.
- Call (541) 346-6666 to report the situation.
- Alert others to stay clear of the area.
- Follow the instructions of emergency personnel and notify them if you have been exposed or have information about the release.

Fire

- Activate the nearest fire alarm pull station.
- Evacuate the building.
- Go to your evacuation assembly point.
- Do not leave the area or campus before reporting to your instructor or building manager.
- Do not reenter the building until authorized by emergency personnel.

Prepare, Plan, Train, and Stay Informed

- Build emergency supply kits for your dorm room or office and home.
- Make an emergency plan for yourself and family.
- Get CPR and first-aid training. Call Environmental Health and Safety at (541) 346-3192 to schedule training.
- Stay informed: participate in the **UO Alert!** text notification system.
- Visit the UO Emergency Management Program website at em.uoregon.edu for emergency-related information.

Evacuation Information

- Walk, do not run.
- Evacuate the building by the nearest usable exit.
- Do not use elevators.
- Take personal belongings—keys, purses, wallets—if possible.
- Secure any hazardous materials or equipment before leaving if possible.
- Follow directions given by building managers.
- Gather outside at your designated assembly point.
- Assist persons with disabilities or special needs if possible.

Emergency
CALL

911

Department of
Public Safety
(DPS)

Emergency
Assistance
(541) 346-6666



UNIVERSITY OF OREGON

Emergency Procedures

Department and Individual Emergency Information

Building Address	
Room Number of Office/Work Space	
Building Manager Name and Phone	
Evacuation Assembly Area	

EmergencyMANAGEMENT
PROGRAM

Introduction

Civil Disturbance or Demonstration

Explosion

Suspicious Package, Envelope, or Object

Flooding

Power Outage

Severe Weather

Earthquake or Tsunami (coastal facilities)

Bomb Threat

Hazardous Materials Incident

Medical Emergencies

Evacuation (Evacuation: Persons with Disabilities)

Fire

Threatening, Violent, or Disruptive Behavior

Suicide or Psychological Emergency



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Contact EHS: 541-346-3192. For emergency assistance call **911**. For non-emergency assistance on campus call UODPS: 541-346-2919. [More Contacts »](#)

- Asbestos Management
- Environmental Monitoring
- Hazardous Waste
 - EPA Chemical Compatibility Chart
 - Hazardous Materials on Commercial Aircraft
 - Quick Reference Guide

Hazardous Waste: Collection, Processing, & Disposal

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

Hazardous Waste Pick-up Request

- Submit your service request through the [online request form](#)
 - Login to your workgroup's on-line interface to view existing requests.
 - Please review a [short tutorial on waste pick-up](#) before submitting your request.
- If your workgroup is **not** set up in the on-line interface, contact Environmental Health and Safety at 541-346-3192
 - You will be asked to provide: your name, phone number, type of containers.
 - Allow two business days for collection.

[UO Hazardous Materials Guide](#)

- This guide outlines procedures established for the University of Oregon. These procedures are in addition to those pertaining to hazardous materials. In addition, some materials are considered hazardous, but have special procedures for disposal.

[Disposal of Refrigerators, Freezers, and other Refrigeration Equipment](#)

[Electronics & Computer Disposal](#) (Business Affairs)

CAUTION
HAZARDOUS

No 15551

University of Oregon
Eugene, OR 97403

Contents Inventory (Do Not Abbreviate)	No	%
Ethyl Acetate	2453	20
Methanol		20
hexanes		40
tetrahydrofuran		20

Phase (Circle One): Solid Liquid Gas

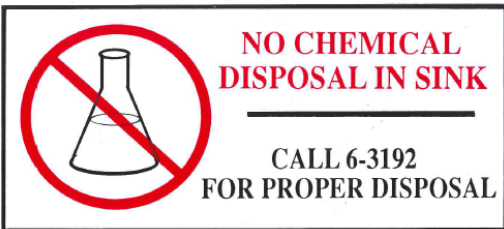
Container Type (Circle One):
 PB = Plastic Bottle CB = Cardboard container
 GB = Glass Bottle BA = Bag
 MC = Metal Can OT = Other

University of Oregon
Eugene, OR 97403

Principal Investigator D W J	Department CHEM
Name CORINNE	Phone 2122
Building K1A	Room 325

OEHS USE ONLY

Weight (including container)	Accum. Start Date
Drum Number	Disposition
Comments/Disposal Date	Ignitable Y N pH = _____ Peroxides < _____ ppm



Contact: Craig Biersdorff, Hazardous Waste Specialist
(541) 346-2348 | craigb@uoregon.edu

The Ideal 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.

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

Artist Status = Healthy

- 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

Symptoms	Possibilities
Skin dryness, itching, inflammation	Solvents, resins, cutting oils, fiberglass, photochemicals
Eye inflammation, irritation, tearing	Acid/alkali vapors, dusts, gases, smoke, sprays
Ear ringing, deafness	Noise, caffeine, quinine, hydroquinones
Sneezing, runny nose, cough, sore throat	Dusts, fumes, gases; vapors from solvents, printmaking, photochemicals
Wheezing, shortness of breath	Dusts and powders (rosin, silica); alkali, photochemical, and solvent vapors
Flulike	Metal fumes
Dizziness, drowsiness, headache, body tingling	Solvent vapor inhalation, asphyxiant gases, carbon monoxide, cyanide
Abdominal discomfort	Photo and printmaking chemicals; solvents

Mediums of Art

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

Tattoo & Body Art Safety

A photograph of a person getting a tattoo. The person is lying down, and a tattoo artist is using a tattoo machine to create a design on their arm. The tattoo is a green and black design. The person has a nose ring. The background is blurred.

Drawing

- Irritating Dusts (chalk, charcoal)
- Solvent-based inks
- Toxic pigments (e.g. chrome yellow, PbCrO_4)



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



© Original Artist
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www.CartoonStock.com

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

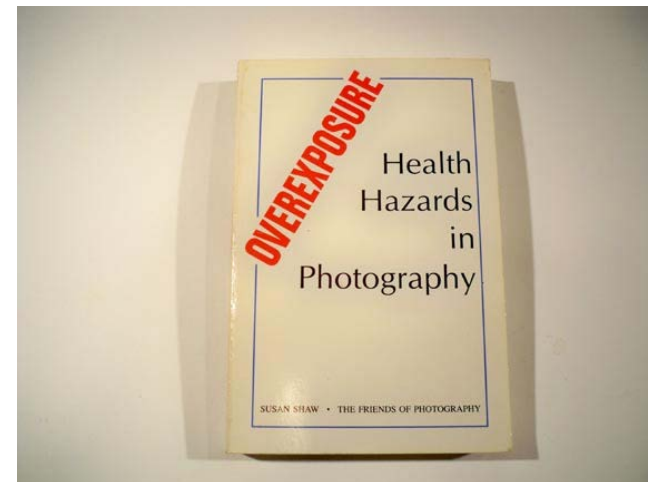
NontoxicPrint.com
Nontoxic Printmaking



A Research Resource and
Practical Guide for
Printmakers, Artists and Educators

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

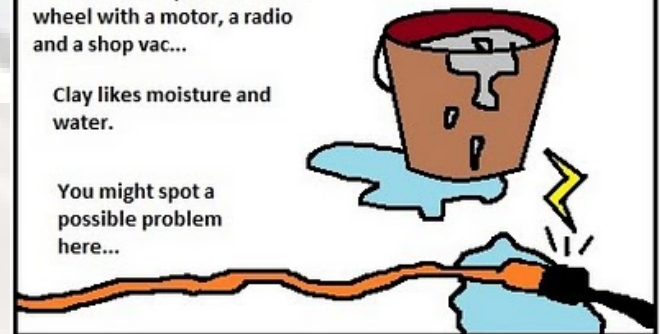
Sculpture

- Dusts, Pigments, Borax, Lime, Acids, Finishing products
 - Irritants, toxics, corrosives, flammables
- Tools & Toolwork
- Mitigating Risks – HazCom, Risk Analysis, Substitution, Protection

Hazard 2: I like powertools, a wheel with a motor, a radio and a shop vac...

Clay likes moisture and water.

You might spot a possible problem here...



Woodworking

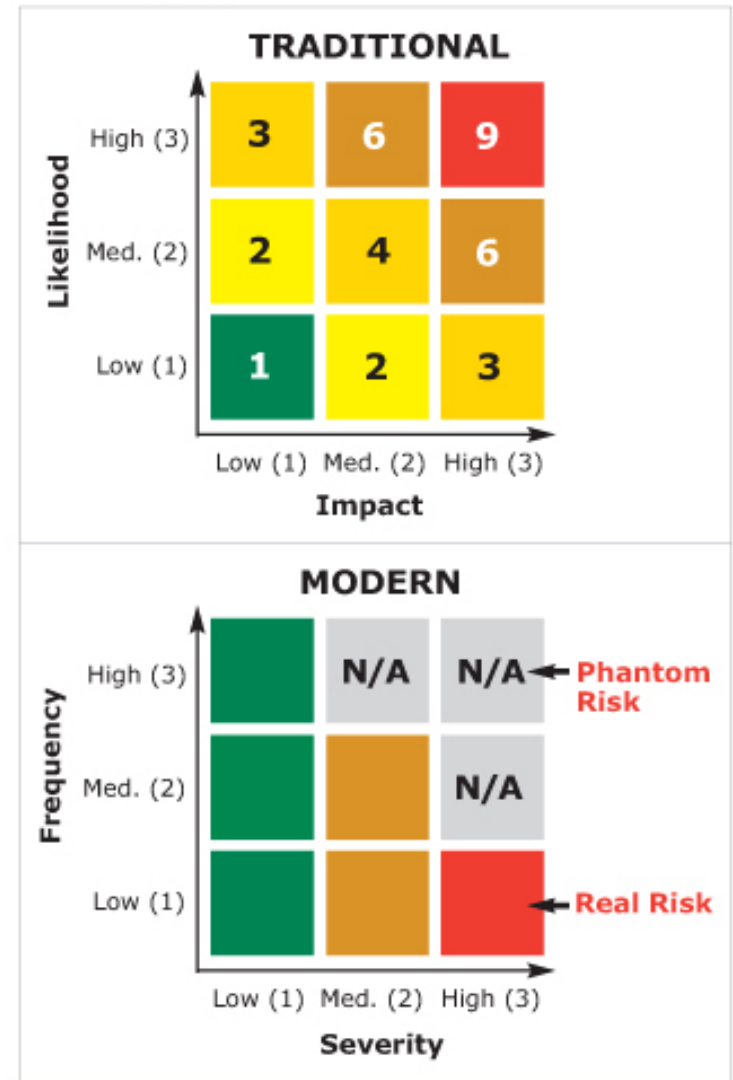
- Dusts, Engineered Wood Products, Finishing Products, Adhesives
- Tools & Toolwork
- Mitigating Risks – HazCom, Risk Analysis, Substitution, Protection, Guarding



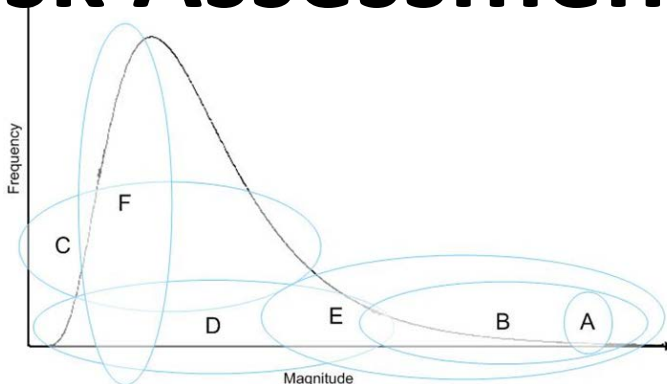
<http://www.youtube.com/watch?v=Og9Usv82CdU>



EXHIBIT 1
Measuring high and low risks



Risk Assessment



UO Environmental Health and Safety

Enterprise Risk Services

ENTERPRISE RISK SERVICES / CONTACT

Environmental Health & Safety

ABOUT US | POLICIES & PROGRAMS | ENVIRONMENTAL MANAGEMENT | FIRE & LIFE SAFETY | RESEARCH SAFETY

Contact EHS: 541-346-3192. For emergency assistance call **911**. For non-emergency assistance on campus call UODPS: 541-346-2919. [More Contacts »](#)



Environmental Management

Environmental Monitoring
Chemical/Hazardous Waste Reduction & Disposal
Asbestos Programs
Integrated Pest Management
Indoor Air Quality
And more...



Fire and Life Safety

Fire Safety
Worker/Occupational Safety
Construction Safety
Driver Safety
Bloodborne Pathogens
And more...



Research Safety

Laboratory Safety
Biological Safety
Radiation Safety
Hazardous Materials Shipping
Chemical Reuse Database (chemdb)
Chemical Assistant Safety Program
And more...

<http://ehs.uoregon.edu/>

- Craig Biersdorff, Dana Peterson, Drew Standridge, Steve Stuckmeyer