

Integrated Safety Plan Preparation Process

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Integrated Safety Plan (ISP) Goal

- **Ensure and improve the safety of students and employees by...**
 - Fostering a culture of safety dedicated to continuous improvement
 - Evaluating, encouraging, and assisting with safety, regulatory, and policy compliance
 - Certifying and indemnifying safety programs that demonstrate a strong commitment to safety

ISP
Self-Audit Checklists

Required for All Areas

- Laboratories and shops must be done one per checklist
- Offices, computer labs, storage areas, and common areas (i.e. kitchenettes, conference rooms), may be combined into one checklist per type area

Required for ISP Certification

- **100% returned**
- **100% completed within 6 months of audit**
- **100% signed by “Responsible Individual”** (*i.e. the person with hire or fire authority*)
 - PI or laboratory supervisor
 - Shop supervisor
 - Most senior person (e.g. department head) when like areas are combined onto one checklist

Review Process

- Safety committee must review and ensure deficiencies are corrected prior to REM audit
- If there are 15 or more checklist, make them available for REM to review before the audit date but after the safety committee review.
 - Send REM electronic or physical copies

or

 - Schedule time for REM to come and review them (a safety committee member need not be present)

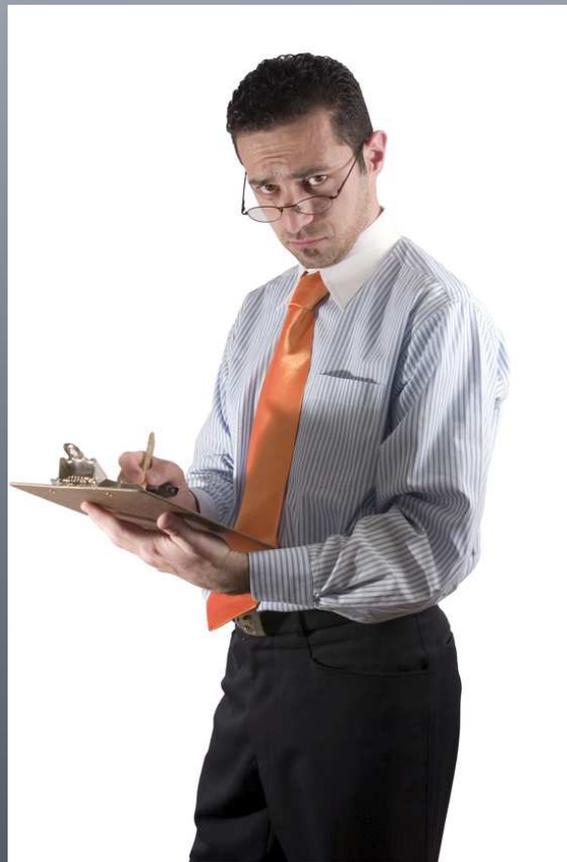
Sections and Applicability

- Checking “No” for an applicable question or section will normally indicate noncompliance

- Sections 1, 2, 3 and 6 will apply to everyone
 1. Emergency Preparedness and Fire Protection
 2. Housekeeping
 3. General Electrical Safety
 6. Personal Protective Equipment (PPE) Policy

Common Deficiencies

Most Cited Items of Concern



Personal Protection

Personal Protective Equipment (PPE) Policy Requirements

- **ALL** areas require a hazard assessment and certification thereof
 - Where applicable (i.e. for offices, commons, storerooms) , “*No hazards requiring PPE*” is acceptable on the certification form
 - Laboratories must post them prominently
- When PPE is required the following is also required:
 - Task or procedure specific training and documentation on the correct use, care, donning, doffing, and limitations of PPE
- Shorts and open toed shoes are unacceptable
 - Legs must be covered to ankles and the whole foot

Eyewashes and Safety Showers

Must have unimpeded access to eyewashes and showers



First Aid Kits

- Accurate inventory must be maintained
- Expired items must be replaced
- **REM prefers you get rid of them**
 - Call the fire department



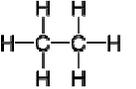
Laboratory Information

Alphabetized Abbreviation and Chemical Formula Key

Acceptable Labeling Key

Container Labeled	Chemical Name
CHCl ₃	Chloroform
CH ₄	Methane
C ₂ H ₆	Ethane
EtOH	Ethanol
dH ₂ O	Distilled water
ddH ₂ O	Double-distilled water
diH ₂ O	Deionized water
H ₂ O	Water
HCl	Hydrochloric acid
HNO ₃	Nitric Acid
H ₂ SO ₄	Sulfuric acid
HOAc	Acetic Acid
NaCl	Sodium Chloride
TBS	Tris-buffered saline

Unacceptable Labeling Key

Chemical Name	Container Labeled
Acetic Acid	HOAc
Benzene	
Chloroform	CHCl ₃
Ethane	
Ethanol	EtOH
Hydrochloric acid	HCl
Methane	
Nitric Acid	HNO ₃
Sodium Chloride	NaCl
Sulfuric acid	H ₂ SO ₄
Water	H ₂ O

Electrical Safety

Electrical Panels

Minimum 36 inches must be maintained in front of a switchboard, breaker panel, or disconnect for combustible material

Space is needed to...

- Provide immediate access to cut power in a hurry
- Prevent spread of fires that may be caused by
 - Faulty wiring
 - Heat buildup
 - Sparks



Power Cords

Damaged insulation, exposed wires
Electrical tape repair is unacceptable



Extension Cords

Must not be used as permanent wiring



- Grounded 1 outlet to 1 plug
- Temporary use only
- Unplug from power source when not in use



Household Use 3 to 1 Not Allowed

Daisy Chains

Extension cords and/or multiple outlet devices must not be connected in series.



Chemical Hygiene

Chemical Containers

- Open
- Labels missing, inadequate, or deteriorated



Fume Hood Use

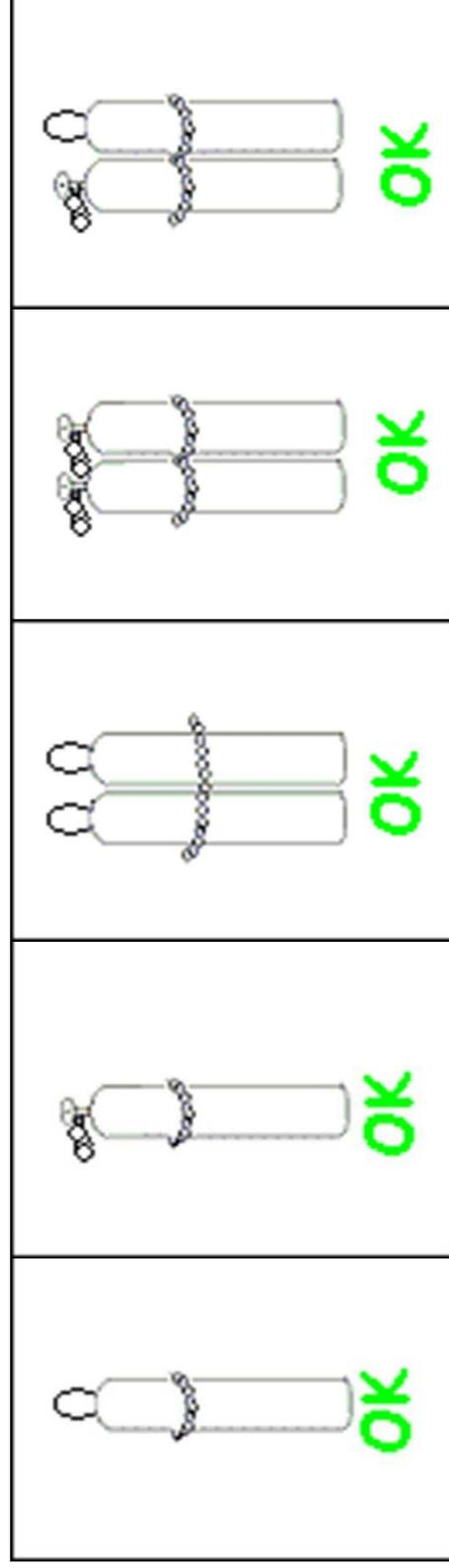
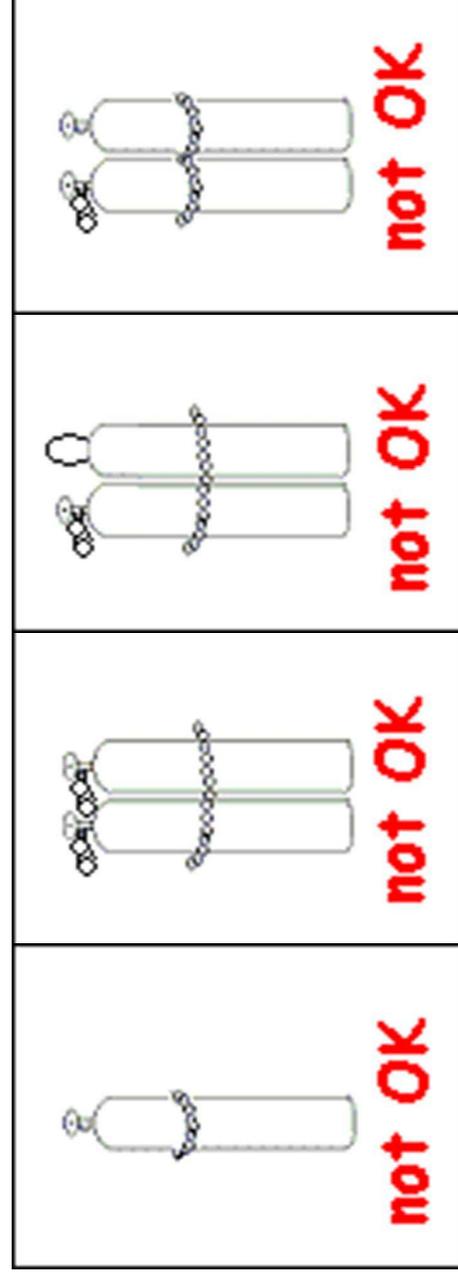
Fume hood must be used for either work **or** storage exclusively



Dual use problems

- Incompatible chemicals too close together
- Ignition sources too close to flammables
- Custom shelving interferes with proper airflow
- Poor housekeeping

Compressed Gas Cylinder Storage



Egress and Fire Protection

Egress

Aisles or routes of egress obstructed



- A tunnel or tape to cover a cord, cable, or hose is not acceptable in a normal work area



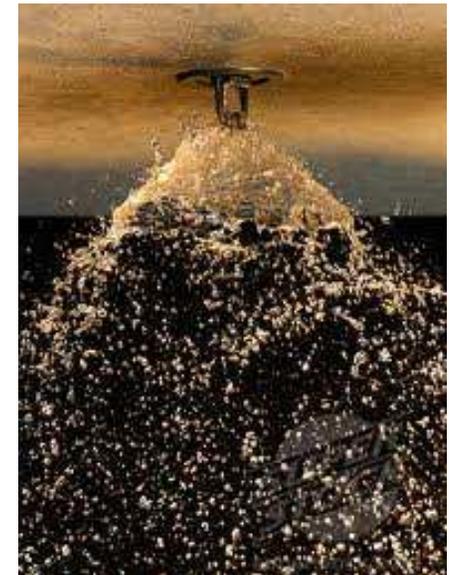
Sprinklers

Do not obstruct sprinkler heads

- No combustibles within...
 - 18 inches of sprinkler head or
 - 24 inches of non-sprinkled ceiling



Storage along walls is ok as long as it is not directly below the sprinkler head.



Fire Extinguishers

Do not obscure or obstruct fire extinguisher access



Fire Doors Propped Open

- Fire doors shall not be blocked, obstructed, propped open, or otherwise made inoperable for any reason or any amount of time.*
- **Never** use a chock, wedge, hold open, or install a plunger stop on a fire door



*Exception: fire door equipped with an automatic closing device tied into the smoke and fire alarm system

Heat Resistant Pads, Tiles, & Trays



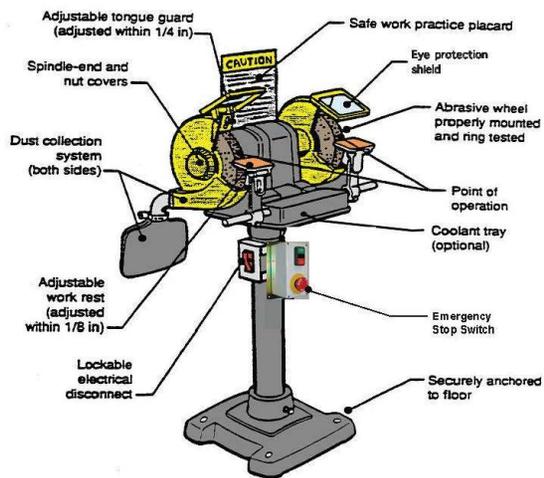
Use under coffee pots, hot water heaters, hot plates, toasters, and toaster ovens or else a meltdown may result ...



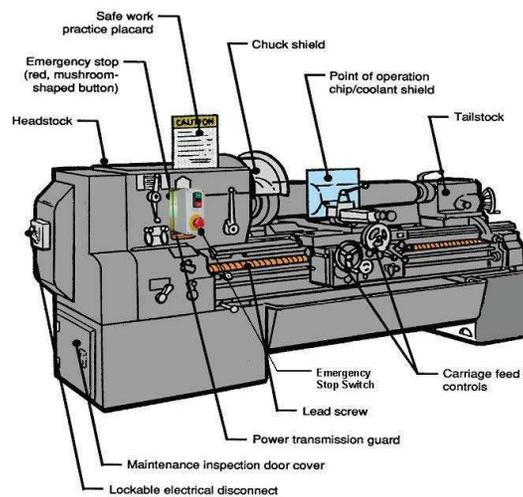
Miscellaneous

Machine Guarding

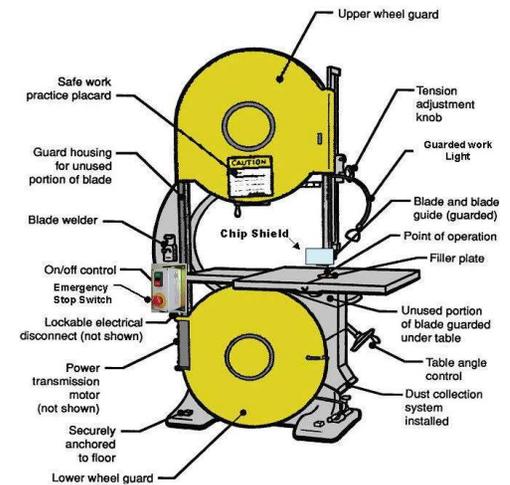
Missing or inadequate guarding



PEDESTAL GRINDER



METAL LATHE



Note: Ensure that the proper blade is used for the material being processed. Never exceed the rated speed of the saw blade. Avoid mixing incompatible dusts.

A non-skid working surface is recommended at the operator's position.

VERTICAL BAND SAW

Housekeeping



What is REM checking for?

- A safety program that has...
 - Regular safety committee meetings with a frequency commensurate with hazards (or minimum twice a year)
 - Means of communicating safety issues to the organization in a timely manner
 - Upper administrative support for safety
 - Regulatory compliance and training documentation
 - Proper injury reporting and accident or near miss investigations (if applicable)
 - Emergency preparedness (i.e. Building Emergency Plans)
 - ISP Self-Audits Checklists* completed for all areas
 - Abated deficiencies found during the self-audits
 - Annual ISP certification audits by REM

* The self-audit checklists presented to REM at the walk-through should not be more than six (6) months old.

Any questions?

