

Science, Math, Engineering Division

Fire Prevention Plan

for SME Employees on the
Main Campus, Bldg. 16

Revision History

1 st Edition	August 2021	Magdalena M. Parker, Chemical Hygiene Officer
June 1, 2022		M. Parker
March 31, 2023		M. Parker; removed building maps
August 31, 2023		M. Parker; changed contact information for Life Science Lab Coordinator; added information regarding highly reactive sodium metal; updated guideline on use of space heaters.

Table of Contents

<u>Topic</u>	<u>Page</u>
Purpose	4
Authority	4
Responsibilities	4
General Workplace Practices for Fire Prevention	5
Identification of Specific Fire Hazards in Building 16 and Fire Prevention Procedures	7
Resources	9
Building 16 Maps with Fire Protection Equipment Locations Marked	10

Purpose

The purpose of this Fire Prevention Plan is to establish procedures in the Science, Math, Engineering Division (SME) at Lane Community College for identifying fire hazards and preventing fires. The plan provides employees with the information necessary to recognize hazardous conditions and take appropriate action before such conditions result in a fire emergency.

All employees, supervisors, and managers are expected to follow the procedures outlined in this plan to ensure that employees and students are protected.

Authority

Oregon Occupational Safety and Health Division, Rule 437-002-0043
Occupational Safety and Health Administration, 29 CFR 1910.39
National Fire Protection Agency, NFPA 45 Standard

Responsibilities

- **Emergency Response:**
 - **Public Safety, ext. 5555 or (541) 463-5555**
- Persons responsible for **control of accumulation of flammable or combustible hazardous waste materials in Storage Building (Bldg 38):**
 - Facilities Management and Planning: **Luis Maggiori, (541) 463-5884**
- Persons responsible for regular removal of combustible waste and recyclable material:
 - **Facilities management and Planning, (Custodial): (541) 463-5000**
- Persons responsible for **control of flammable chemical storage, fuel source hazards, and satellite accumulation areas where flammable hazardous waste may be stored:**
 - **Physical Sciences (Rm 141, 143, 147, 148):**
 - **Jordan Mohrhardt, Lab Coordinator, (541) 463-5048, (541) 463-5497**
 - **Magdalena Parker, Chemical Hygiene Officer, (541) 463-5036**
 - **Life Sciences (Rm 104, 106):**
 - **Adam Gabay, Lab Coordinator, (541) 463-5449**
 - **Magdalena Parker, Chemical Hygiene Officer, (541) 463-5036**
- Persons responsible for **inspection and maintenance of equipment and systems installed to prevent or control ignitions of fires (Ex. fire extinguishers, fire hoses, fire blankets, etc):**
 - **Facilities management and Planning: (541) 463-5000**
 - **Mark Richardson (541) 463-3456**

General Workplace Practices for Fire Prevention

Housekeeping

- Keep storage, working areas, and offices free of trash and clutter.
- Remove accumulations of combustible dust.

Fire Suppression Equipment

- Maintain free and clear access to fire extinguishers and fire alarm pull stations.
- Follow proper storage and handling procedures as directed by the product manufacturer.
- Keep storage 18 inches away from sprinkler heads and 24 inches from the ceiling in non-sprinkler areas.

Open Flames

- Smoking is not permitted anywhere on campus.
- Candles/incense/open flames are not permitted in any setting except for supervised classroom and/or lab functions.

Escape Routes

- Ensure that all passageways and exits remain unobstructed.
- All exit doors shall remain unlocked when the building or a portion of the building served by the exit is occupied.
- Stairwell doors shall never be propped open and materials, especially flammable materials, shall not be stored in stairwells or on landings.

Combustible / Flammable Material Storage

- Store flammable and combustible liquids in approved storage containers and cabinets.
- Keep oily rags in a covered metal container and dispose of properly.
- Do not store combustible materials of any kind in mechanical rooms.
- Flammables, including data sheets, books, rags, clothing, flammable liquids or trash shall not be placed or stored near heaters or their vents, any electrical appliance, or other potential sources of ignition.

Heat Sources

- Sources of actual or potential heat such as hot plates or electric coffee pots shall not be placed near flammable materials.
- Candle warmers are prohibited.
- Only UL-listed space heaters are allowed.

Electrical/Mechanical Safety

- Maintain free and clear access to electrical panels. Do not stack or store materials within 3 feet of the electrical panel.
- Don't overload electrical outlets.
- Extension cords should only be used for temporary connections.
- Small electrical items/coffee makers shall not be placed on combustible surfaces (plastic or cloth mats, wood countertops).
- Ensure that coffee pots or appliances in kitchen areas are not left on or unattended for long periods of time.
- Conduct regular maintenance of all mechanical equipment.
- Check equipment wiring for frayed or damaged wires and replace immediately.

- Each individual is personally responsible for assuring that extension cords and multiple plugs are in good condition. Cords that are missing the grounding prong, are spliced together, or that are missing their protective sheath shall not be used.

Identification of Specific Fire Hazards in Building 16 and Fire Prevention Procedures

Fire Hazard	Location in Bldg 16 (Room # / Name)	Fire Prevention Procedures	Fire Protection Equipment Needed
Bunsen burners	Some Science labs	1) Clear all flammable and combustible materials away from burner; 2) Do not leave unattended; 3) Regularly inspect gas hoses for damage or cracking.	1) Gas shut-off valve; 2) Class ABC fire extinguisher or water
Candles	Some Science labs	1) Use candles only in the laboratory for instructional purposes; 2) Clear all flammable and combustible materials away from candle; 3) Confine candle inside a fume hood if possible; 4) Do not leave a burning candle unattended.	1) Candle snuffer for candle; 2) Class ABC fire extinguisher
Compressed hydrogen gas cylinder	150 - Balance Room	1) Store in separate room at temperature less than 52C secured upright to a wall bracket; 2) Separate from oxidizers including oxygen gas; 3) Keep away from heat, sparks, and open flame; 4) Inspect cylinder periodically for leaks; 5) Remove regulator when not in use.	Class ABC fire extinguisher or water
Compressed oxygen gas cylinder	143A - Physical Sciences Stockroom	1) Store in separate room 25 feet away from oil, grease, graphite or any other oxidizable substance; 2) Never permit oil, grease, or other combustible substances to come into contact with the oxygen cylinder and valve; 3) Inspect cylinder periodically for leaks; 4) Remove regulator when not in use.	Class ABC fire extinguisher or water
Electrical appliances - general	Most rooms	1) Do not place or store flammables, including data sheets, books, rags, clothing, flammable liquids or trash shall near heaters or their vents, any electrical appliance, or other potential sources of ignition; 2) Do not overload electrical outlets; 3) Maintain free and clear access to electrical panels (3 ft clearance); 4) Inspect electrical devices frequently for damaged wiring, outlets, multi-strips; 5) Use only UL listed space heaters and keep them away from fuel sources and combustible materials; 6) Train specific employees to inspect appliances prior to use.	Class ABC fire extinguisher

Electrical laboratory heating devices such as furnaces, ovens, hot plates, incubators	Most Science labs and stockrooms	1) Clear all flammable and combustible materials away from the heating device; 2) Do not heat flammable liquids and materials in ovens and incubators; 3) Do not leave hotplates unattended.	Class ABC fire extinguisher
Flammable liquids	106 - Life Sciences Stockroom	1) Store in approved metal flammables cabinets; 2) Ensure that total amount of flammable liquid does not exceed amount allowed by fire code.	Class ABC fire extinguisher
Flammable liquids	Most Science labs	1) Store larger supply containers in approved metal flammables cabinets while not in use; 2) Provide flammable liquids in the smallest practical and appropriately labeled dispenser bottles for temporary instructional use, then move back to stockroom after class; 3) Use hot water bath or specialized heating mantle to heat flammable liquids.	Class ABC fire extinguisher
Flammable liquids	141 - Chemical Storage Room	1) Store in approved metal flammables cabinets; 2) Ensure that total amount of flammable liquid does not exceed amount allowed by fire code.	Class ABC fire extinguisher
Flammable liquids	141A - The Vault	1) Store in approved metal flammables cabinets; 2) Ensure that total amount of flammable liquid does not exceed amount allowed by fire code; 3) Limit access to Room 141A only to laboratory support staff.	Class ABC fire extinguisher
Natural gas lines	Most Science labs and classrooms	1) Label all natural gas lines and shut-off valves; 2) Turn off natural gas in rooms where natural gas is not needed; 3) Inspect accessible gas lines regularly for leaks.	1) Gas shut-off valve; 2) Class ABC fire extinguisher
Oxidizing materials	141 - Chemical Storage Room, Section D	Store oxidizing chemicals in separate section or cabinet and in accordance with SDS.	Class ABC fire extinguisher
Paper, plastic and other common combustible materials	All rooms	1) Empty paper and plastics recycling can regularly; 2) Practice good house-keeping to reduce combustible clutter.	Class ABC fire extinguisher or water
Preserved specimens stored in flammable liquids	104 / 104A - Dead Animal Room	1) Replace flammable storage fluids with non-flammable type OR store in approved flammables cabinet; 2) Limit access to Room 104 only to laboratory support staff.	Class ABC fire extinguisher

Reactive materials	141 - Chemical Storage Room	Store reactive chemicals in separate section or cabinet and in accordance with SDS.	Class ABC fire extinguisher
Highly reactive metals: sodium metal	141 – Chemical Storage Room, Section C	Store sodium metal in a separate glass container in an inert liquid such as mineral oil or xylenes to prevent contact with water/moisture in accordance with SDS.	Class D fire extinguisher
Flammable hazardous waste in Satellite Accumulation Areas (SAA)	106 - Life Sciences Stockroom	1) Accumulate flammable hazardous waste in approved container (maximum 20 L/5 gal capacity) near point of origin; 2) Store container in approved flammables cabinet or next to fume hood or in fume hood cabinet; 3) Keep container closed except to add liquid; 4) Remove flammable hazardous waste regularly and before exceeding allowable limit; 5) Place flammable hazardous waste containers in Storage Building #38 (East of Bldg 16)	Class ABC fire extinguisher
	143 - Physical Sciences Stockroom		
	147 - Organic Chemistry Lab		
	148 - General Chemistry Lab		

Resources

- **2019 Oregon Fire Code**
 - <https://codes.iccsafe.org/content/OFC2019P1/effective-use-of-the-international-fire-code>
- **OREGON OCCUPATIONAL SAFETY AND HEALTH STANDARDS Oregon Administrative Rules, Chapter 437 DIVISION 2 (29 CFR 1910) GENERAL OCCUPATIONAL SAFETY & HEALTH RULES**
 - <https://osha.oregon.gov/OSHARules/div2/div2E.pdf>
- **Oregon Department of Consumer and Business Services, Oregon Occupational Safety and Health Division, Rule 437-002-0043 Fire Prevention Plan**
 - https://oregon.public.law/rules/oar_437-002-0043
- **National Fire Protection Agency, NFPA 45 Standard**