



SAN FRANCISCO
STATE UNIVERSITY

Fire Safety

A tutorial for interpreting this category
on the lab safety checklist

Fire Safety Category

This category focuses on fire code-related issues.

Category	#	INSPECT Statement	References and Action Plan
FIRE	1	Flammable storage cabinets are in good condition (not severely rusted, no holes) and labeled "Flammable-Keep Fire Away".	<p><u>8 CCR §5533 (b)</u>: Cabinets shall be labeled in conspicuous lettering, "FLAMMABLE-KEEP FIRE AWAY."</p> <p><u>CFC, §5704.3.2.1.2</u> Cabinets shall be provided with a conspicuous label in red letters on contrasting background that reads: FLAMMABLE—KEEP FIRE AWAY.</p>
FIRE	2	Flammable storage cabinets have working self-closing doors and otherwise meet CA fire code and Cal/OSHA regs	<p><u>CFC, §5704.3.2.1.3</u>; Doors shall be well fitted, self-closing and equipped with a three-point latch. Self-closing doors are required. Self-latching doors are not required, but this feature can provide additional safeguard against fire and is a Good Management Practice in earthquake zones.</p>
FIRE	3	Materials are stored at least 24" below below the ceiling, 18" if fire sprinkler heads are present.	<p><u>24 CCR, §315.3.1</u>: and <u>8 CCR, §6170(c)(10)</u>: Ceiling Clearance. Storage shall be maintained 2 feet or more below the ceiling in non- sprinklered areas of buildings and more than 18 inches below sprinkler head deflectors</p> <p><u>Corrective Action</u>: Remove all storage within 24 inches of the ceiling; within 18 inches from sprinkler heads if present.</p>
FIRE	4	Flammable gas cylinders are grounded when in use. Examples: Hydrogen, Carbon monoxide	<p><u>CFC §5803.1.5.1</u>: Flammable gas cylinders and static-producing equipment located in flammable gas storage or use areas shall be grounded.</p>
FIRE	5	Electrical equipment, used with flammables such as electronic stirrers or hot plates, are labeled as approved for use with flammables by the manufacturer	<p><u>CFC §5803.1.4.1</u>: Ignition sources are kept away from areas containing flammable gases .</p> <p><u>Corrective Action</u>: Contact Stockroom to replace improper equipment immediately.</p>

Statement 1

Flammable storage cabinets are in good condition (not severely rusted, no holes) and labeled “Flammable- Keep Fire Away”.

- Please ensure that flammable storage cabinets are not rusted or have holes. Additionally, please ensure they are clearly labeled.

An example of an acceptable flammable storage cabinet condition is pictured.



Statement 2

Flammable storage cabinets have working self-closing doors and otherwise meet Calif. fire code and Cal/OSHA regs

- When flammable storage cabinet doors are opened and released, the door should close on its own. If the door does not close on its own, a new cabinet must be purchased to replace the faulty one.
- The lab or department must purchase a replacement.



Statement 2 – Additional Notes

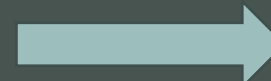
Cabinets that are designed to meet OSHA and IFC codes and are UL listed, are designated as “approved” flammable storage cabinets.

- These cabinets are subject to this checklist question.



Unapproved Cabinets

- Standard cabinets are limited to a maximum of 5 gallons of flammable liquids
- This checklist question does not apply to these.



Statement 3

Materials are stored at least 24" below the ceiling, 18" if fire sprinkler heads are present.

Do not store materials within 24" of ceiling.

- If there are fire sprinklers, then no storage within 18" of the sprinkler heads.

This box on top of this cabinet is not compliant. Also note, unless it is empty, overhead storage of heavy items is a safety hazard.

Note:

Where a cabinet reaches the ceiling, items can be stored on the highest shelf within the cabinet, unless the items pose a safety hazard.



Statement 4

Flammable gas cylinders are grounded when in use. Examples: Hydrogen, Carbon monoxide.

- Flammable gas cylinders such as H₂, CO, or acetylene must be grounded when in use.
- If a gas cylinder is capped, then it is considered not in use and does not need to be grounded.
- However, if the cylinder is uncapped and has a gauge attached, it is assumed to be in use. Please ensure that cylinders are grounded.



No grounding wire is attached, so non-compliant.

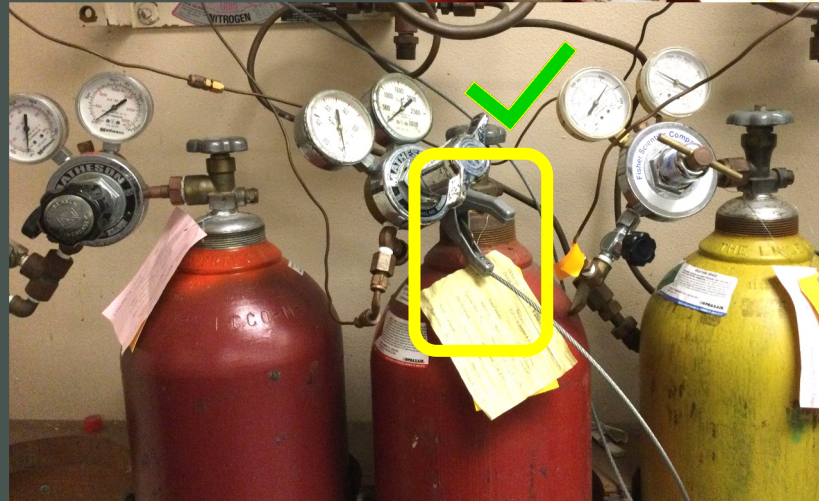
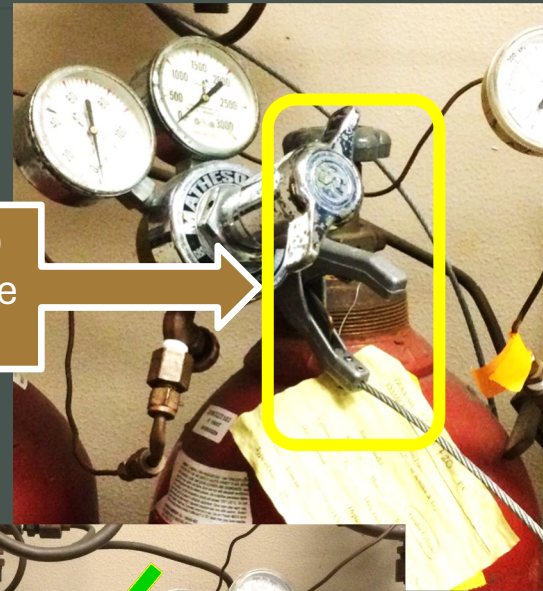
Statement 4 – Additional Notes

Grounded cylinders will have a metal clamp or u-shaped ring attached to the gauge.

- Flammable cylinders without this are considered not in compliance

Please note that the grounding equipment is separate from the straps holding gas cylinders upright and against walls.

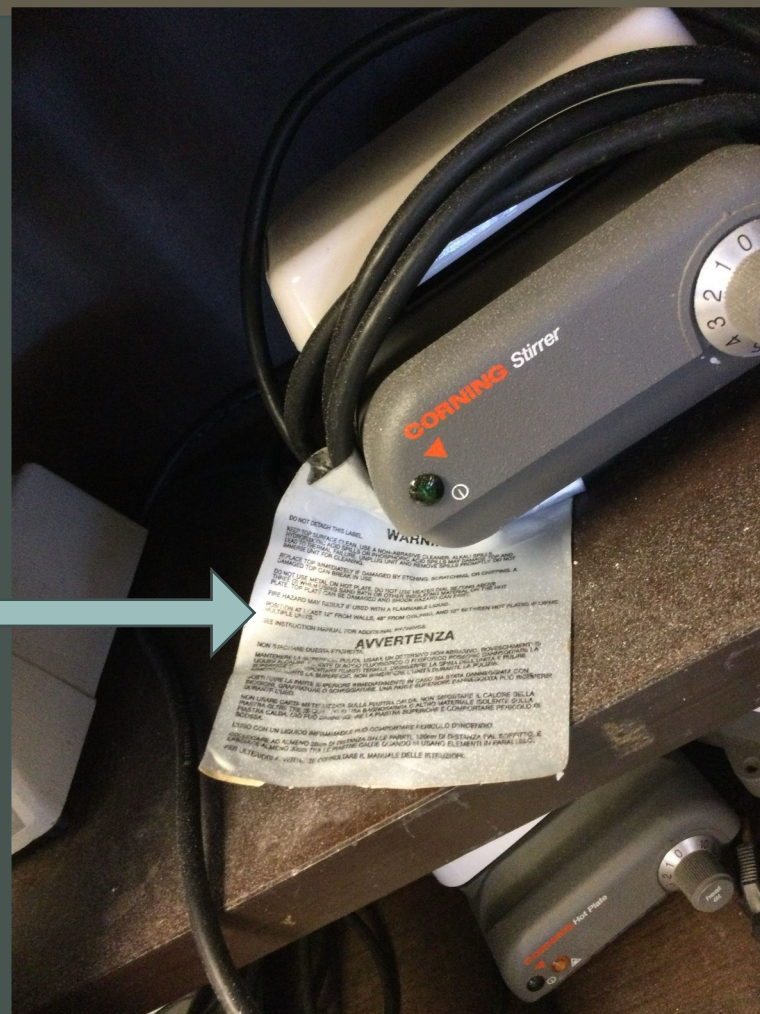
Grounding Clamp
with grounding wire
(close up)



Statement 5

Electrical equipment, used with flammables such as electronic stirrers or hot plates, are labeled as approved for use with flammables by the manufacturer

- Please inspect the tags attached to the cords of electronic stirrers or hot plates before using with flammable materials.
- Lab members must ensure that the plates being used with flammable materials are approved for use by the manufacturer. An example of such a warning tag is pictured.
- Hot plates and stirrers for use with flammable liquids must be operated inside a working chemical fume hood. This will minimize the risk of lower flammable limits being reached and the associated fire hazard.



Statement 5 – Additional Notes

- Do not remove warning tags from electronic stirrers or hot plates.
- This category only applies to electronic stirrers or hot plates that are used with flammable materials. If not used with flammables, then the electronic stirrer or hot plate does not need to be approved for use.



Statement 6

OTHER:

This category is used to report other fire safety violations or issues that are not described by the other statements.

An example is witnessing the transfer of a flammable solvent from one metal can to another where the proper bonding and grounding isn't present.

- This doesn't apply to glassware.



Things to consider

There are so many unique situations and equipment setups in academic laboratories and activity spaces can't be adequately covered by a handful of safety statements in the INSPECT app.

Often it is a judgement call whether a situation is "in compliance" or not with the intent of the statement.

Checklist Options



Can mean "good", "okay", "compliant", "acceptable" "ok but not ideal"



Can mean "unsafe", "not acceptable", "not compliant", "maybe unacceptable or non-compliant, so requires verification"

If you have questions or are unsure if your lab is in compliance with standards, please reach out to Environment Health and Safety (EHS).

Environment Health & Safety : sfehs@sfsu.edu