Laboratory safety presentation and 5-minute talk

29 CFR 1910.1450, 1910.133, 1910.141, 1910.151

Date _____ Trainer _____ Location _____

Opening question

If the bottle in front of you spilled right now, would you know what is in it, how it could hurt you and what to do first?

Why it matters

Labs use many different chemicals, often in small amounts, and that makes it easy to get comfortable. A splash, a vapor you breathe in or a mislabeled bottle can cause burns, poisoning or a fire. Good habits and working equipment are what keep a small mistake from turning into an injury.

Key points

1. **Know your chemical hygiene plan**
   Where hazardous chemicals are used in a lab, the employer must have a written chemical hygiene plan and carry it out. The plan sets the procedures, controls, PPE and hygiene practices for your lab, and it must be readily available to employees (29 CFR 1910.1450(e)(2)). Know where to find it and who your chemical hygiene officer is.
   29 CFR 1910.1450(e)(1)

2. **Read the label and the SDS first**
   Labels on incoming chemical containers must not be removed or defaced, and safety data sheets that arrive with shipments must be kept and made readily accessible to lab employees. Before you use a chemical, check its label and SDS for the hazards, the PPE to wear and first aid. If a container's label is missing or unreadable, do not use it, and tell your supervisor.
   29 CFR 1910.1450(h)(1)

3. **Use the fume hood the right way**
   The chemical hygiene plan must require that fume hoods and other protective equipment work properly, with specific steps to make sure they do. Work with volatile or toxic chemicals inside the hood, keep the sash as low as you can, and do not block the airflow with clutter. If a hood alarm sounds or the hood does not seem to pull air, stop and report it.
   29 CFR 1910.1450(e)(3)(iii)

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4 Wear eye and hand protection

In general industry, employees exposed to liquid chemicals, acids or caustic liquids, or chemical gases or vapors must use appropriate eye or face protection. Employers must also select and require appropriate hand protection, such as gloves, when hands are exposed to hazards like skin absorption of harmful substances or chemical burns (29 CFR 1910.138(a)). Check the SDS for the right glove type, and take gloves off before touching doorknobs, phones or keyboards.

29 CFR 1910.133(a)(1)

5 Keep food and drinks out

In general industry, no employee may eat or drink in any area exposed to a toxic material, and food and drinks may not be stored there (29 CFR 1910.141(g)(4)). Never keep food in a refrigerator used for chemicals or samples. Wash your hands before you leave the lab, even if you wore gloves.

29 CFR 1910.141(g)(2)

6 Know what to do in a spill or splash

Where the eyes or body may be exposed to injurious corrosive materials, facilities for quick drenching or flushing must be provided in the work area for immediate emergency use. Know where the eyewash, safety shower and spill kit are, and report every spill, even a small one. After a spill, leak or other event likely to cause a hazardous exposure, the affected employee must be given an opportunity for a medical consultation (29 CFR 1910.1450(g)(1)(iii)).

29 CFR 1910.151(c)

Scenario

Picture this: At the end of a long day, a lab tech pours a solvent into an unlabeled beaker on the open bench instead of in the fume hood, planning to label it later. A coworker sets a cup of coffee down right next to it. The beaker tips, splashing the tech's bare wrist and the coffee cup. What went wrong, and what should both of them do right now?

Crew discussion

1. Where is our chemical hygiene plan kept, and who is our chemical hygiene officer?
2. Where are the nearest eyewash, safety shower and spill kit, and is anything blocking them?
3. Which of our chemicals need the fume hood, and how do we know it is working?
4. What would you do first if a chemical splashed in your eyes or on your skin?

Bottom line **Know what you are working with, use the hood and the right PPE, keep food out of the lab, and report every spill or exposure.**

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Sign-in sheet / Hoja de asistencia

Topic / Tema Laboratory safety / Seguridad en laboratorios

Date / Fecha _____

Trainer / Instructor _____ Location / Lugar _____ Company / Empresa _____

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