

# Cup Sinks & Floor Drains in Labs

Building infrastructure, experimental work, chemical storage and other circumstances can all contribute to abnormal smells or odors in a laboratory. One common source of unpleasant nuisance odors is sewer gas that can escape through a laboratory sink or floor drain.

## Where is the smell coming from?

Sewer gas is a complex mixture of gases which may contain methane, carbon dioxide, sulfur dioxide, and nitrous oxides as well as sometimes chlorine compounds, industrial solvents, and fuel from sewage treatment system.

To prevent the leakage of sewer gases, plumbing systems contain a p-trap and vent. If a drain is not used often – especially hidden cup sinks and out-of-the way drains - the water held in the p-trap can evaporate and let gas escape (See Figure 1). Along with this, if the vent is broken or blocked, odors can permeate into the surrounding environment.

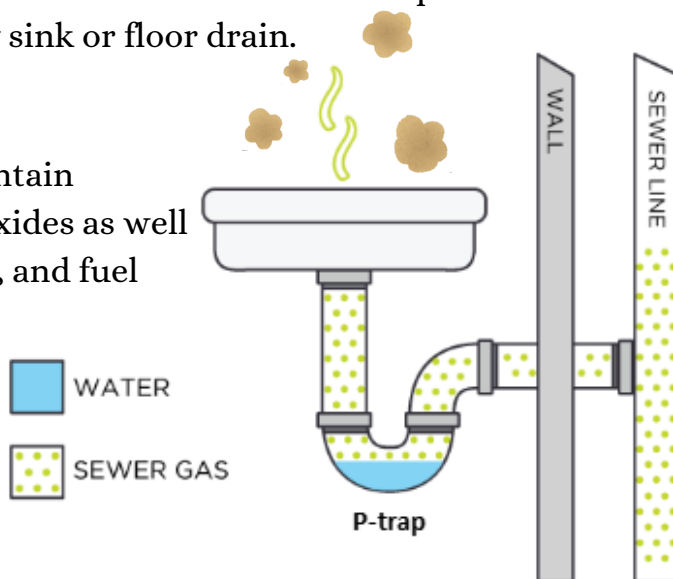


Figure 1: A Cup[sink] half empty - sewer gas escaping from a rarely used sink.

## Fun FAQ!

A P-trap gets its name because it combines two 90 degree joints with a horizontal overflow pipe and gives the entire unit the shape of the letter “P.”

## How do we prevent it?

To prevent sewer gases from leaking, it is important to flush sink pipes monthly, or whenever an odor is detected to prevent the p-trap from drying out (See Figure 2).

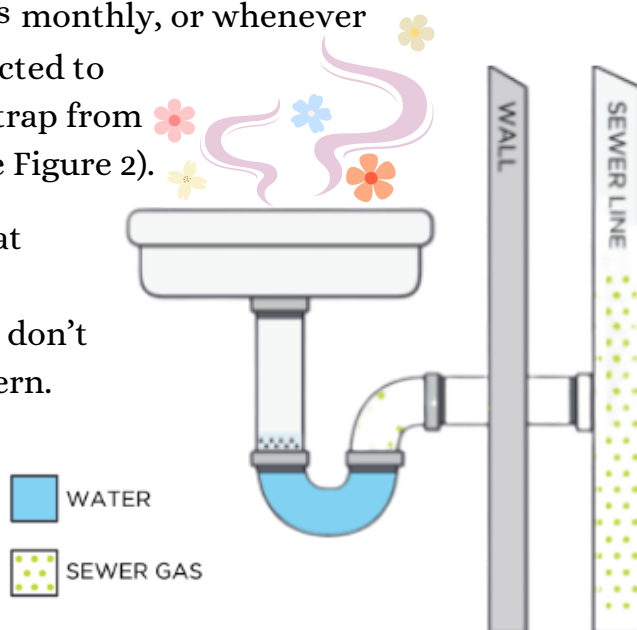


Figure 2: A frequently flushed sink with a P trap blocking the sewer gas from escaping.

It is also important to keep the sink clear of any debris that may clog the plumbing and lead to the buildup of gases. Following these practices can ensure that the sewer gases don't leak into the spaces and lead to a misidentified odor concern.

For more information on air quality concerns, please contact the EH&S lab Safety team at [labsafety@columbia.edu](mailto:labsafety@columbia.edu).

Have more questions? Reach out to EH&S at [Labsafety@columbia.edu](mailto:Labsafety@columbia.edu) or give us a call

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