

Voluntary Respirator Use For Reproductive Health Considerations

When employees are pregnant or trying to become pregnant, it is often recommended they minimize exposure to certain substances as much as possible. Even if a respirator is not normally required for a task, it may be worn voluntarily for added protection. To ensure maximum effectiveness, proper respirator use and maintenance, including a cartridge change-out schedule, is essential.

If a respirator was not previously required for a task, it means exposure levels are below established safety limits. In such cases, wearing a respirator is considered **voluntary use**. When respirator use is **required** due to high concentrations exceeding safety limits, manufacturers conservatively recommend changing cartridges after each shift. For voluntary use, this schedule can be adjusted.

Determining an exact cartridge replacement schedule for organic vapors like isoflurane and formaldehyde is challenging, as concentration and exposure times vary across procedures. When respirators are worn **voluntarily** to further reduce exposure, the cartridge change-out schedule does not need to be as strict.

For more information take the EH&S [Reproductive Hazards in Research](#) training.

Recommended Respirator Cartridge Guidelines:

- **Wait to open cartridges** until you are ready to use them. Mark the open date to track usage time.
- **Store cartridges properly** between uses in a sealed bag or container.
- **Replace cartridges immediately** after any incident that may have increased gas exposure—such as a spill, loose-fitting nose cone, disconnection of tubing, or other equipment failure.
- **Assess your task hazards:** If there is a risk of exposure to infectious agents or biohazards, add a particulate filter (N95 or P100) to the chemical cartridge.
- **Adjust the cartridge schedule for voluntary use:**
 - For long, infrequent shifts (e.g., 4-6 hours once a month), changing cartridges after each use may be appropriate.
 - For short, frequent shifts (e.g., 1 hour daily for a week), a weekly change-out may be sufficient.
- **Respond to breakthrough signs:** If you notice odors or other signs of cartridge failure while wearing the respirator, replace the cartridge immediately and shorten your change-out schedule.

Respirator Cartridge Summary

Hazard	Cartridge	Change Schedule
Isoflurane	3M 6001 Organic Vapor (OV; black band, white text)	Daily to monthly depending on use and comfort level
Isoflurane and infectious agent	3M 60921 OV/P100 (black band, white text and pink top) OR add a N95 filter (5N11) to the 6001 cartridge using a 3M 501 Filter Retainer	
Formaldehyde/formalin	3M 6005 Formaldehyde and Organic Vapor (FM/OV; black band, olive green text)	Daily* to monthly depending on use and comfort level
Formaldehyde/formalin and infectious agent	3M 60925 FM/OV/P100 (black band, olive green text and pink top) OR add a N95 filter (5N11) to the 6005 cartridge using a 3M 501 Filter Retainer	

* OSHA requires daily change out of formaldehyde cartridges when concentrations exceed the OSHA exposure limits