



### Voluntary Respirator Use During Pregnancy – Isoflurane and Formaldehyde

When employees are pregnant or trying to become pregnant, it is often recommended they reduce exposure to certain substances to as low of a level as possible. Although a respirator might not normally be required for a task, one can be worn for additional protection. For maximum protection, proper respirator use and maintenance, including a cartridge change out schedule is key.

If you were not previously wearing a respirator for a task, the exposure is likely below established exposure limits and respirator use is not required. Wearing a respirator when not required is called **voluntary respirator use**. If a respirator is **required** for the task because of high concentrations exceeding recommended limits, the conservative recommendation from the manufacturer is to change the cartridge each shift. For **voluntary use**, this can be modified.

It is difficult to determine an exact replacement schedule for organic vapors like isoflurane and formaldehyde because gas concentration and use times can vary among procedures. If a respirator is worn on a voluntary basis, with the goal to reduce the exposure to levels as low as possible, the cartridge change-out schedule is not as strict.

#### Recommended Guidelines:

- Do not open the cartridge package until you are ready to wear your respirator. Date the cartridges when opened so you can track usage time.
- Store the cartridges in a sealable bag or container in between uses.
- If there is any reason to believe there was a larger amount of gas escaping during a procedure (a spill occurred, nose cone not well fitting or fell off, tubing became disconnected, etc.), change the cartridges after that procedure.
- Evaluate your task to determine if isoflurane or formaldehyde is the only hazard. If a potentially infectious agent/biohazard is present, a particulate filter is also necessary.
- For **required** use the manufacturer recommends a daily to weekly change out schedule. For **voluntary** use, you can likely expand the replacement schedule.
  - If shifts are very long and infrequent, for example 6 hours of work once a month, change out after each use might be appropriate. If shifts are short and frequent, for example, 1 hour each day for a week, a weekly change out schedule might be appropriate.
- If potential breakthrough is detected while wearing the respirator, such as an odor, change the cartridge immediately and adjust the schedule.

#### Respirator Cartridge Summary

Hazard	Cartridge	Change Schedule
Isoflurane	3M 6001 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)	
Formaldehyde/formalin	3M 6005 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)	

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