

1. PURPOSE. This procedure establishes change-out schedules for particulate filters and gas/vapor cartridges used with air-purifying respirators on Bayview Services, Inc. (BSI) operations, in accordance with Cal/OSHA Title 8 CCR §5144.

2. FILTER CHANGE-OUT SCHEDULES

The service life of all filters is limited by considerations of hygiene, damage, and breathing resistance. All filters shall be replaced whenever they are damaged, soiled, or causing noticeably increased breathing resistance.

FILTER SERIES	CHANGE SCHEDULE
N	When breathing becomes difficult, or when breakthrough odor or taste is detected.
R	After each 8-hour shift or 8 hours of use.
P	Follow manufacturer's time-use recommendation.

3. CARTRIDGE CHANGE SCHEDULES

Cal/OSHA substance-specific standards provide mandatory change-out schedules. Employees exposed to any of the following contaminants at or above the Permissible Exposure Limit (PEL) shall change cartridges/canisters according to their requirements:

CONTAMINANT	MANDATORY CARTRIDGE CHANGE RULE
Acrylonitrile (8 CCR §5213)	End of service life or end of shift.
Benzene (8 CCR §5218)	End of service life or beginning of shift.
1,3-Butadiene (8 CCR §5201)	Every 1, 2, or 4 hours based on concentration, and at the beginning of each shift.
Formaldehyde (8 CCR §5217)	Cartridges every 3 hours or end of shift; canisters every 2 or 4 hours, per §5217(g).
Vinyl chloride (8 CCR §5210)	End of service life or end of the shift in which first used.
Methylene chloride (8 CCR §5202)	Canisters for emergency escape only; replace after use.

Employees not covered by a Cal/OSHA substance-specific requirement shall change cartridges/canisters every 8 hours of work or at the end of the shift, whichever occurs first.

4. SERVICE-LIFE CONSIDERATIONS

There is no regulatory-accepted method for determining cartridge service life when exposed to mixtures; change schedules shall rely on good judgment and available data, taking into account OSHA's recognized rules of thumb: a service life of 8 hours at a normal work rate may be expected where the chemical's boiling point exceeds 70°C (158°F) and the concentration is less than 200 ppm; service life is inversely proportional to work rate; reducing concentration by a factor of 10 increases service life by a factor of 5; and humidity above 85% reduces service life by 50%. Factors that reduce cartridge service life include exertion level, cartridge variability, temperature, humidity, and multiple contaminants.

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