

## **TOOLBOX TALK #23**

### **RESPIRATOR CARTRIDGES LIFE SPAN**

#### ***When should I change the filters on my half mask respirator?***

As outlined in OSHA's respiratory standard, the importance of maintaining your respirator – including cleaning, disinfecting, inspecting and storing it – is key to keeping it functioning properly. This includes changing and maintaining filters and cartridges used in respirators. Filters and cartridges have a limited life span and are most effective when they are clean, unclogged and air is able to freely pass through them.

#### **Filters**

OSHA defines a filter as a component used in respirators to remove solids or liquid aerosols (ie. particulates) from inhaled air. Under the N, P, or R, designations are given to particulate filters. N series filters are used for any solid or non-oil-containing particulate, and R and P series filters are used for any particulate, including aerosols. According to OSHA, the filter needs to be replaced when:

- The user has difficulty breathing comfortably or notices an increase of breathing resistance resulting from particle build up
- The filter becomes physically dirty
- The filter is physically damaged

It is important to note that N and R series filters may have limitations on use, as contaminants can degrade the filter media. Use limitations are outlined by the respirator manufacturer.

#### **Cartridges**

OSHA defines a cartridge as a container with a filter, sorbent or catalyst – or any combination of the three – that removes specific contaminants from air passed through the container. Cartridges must have an end-of-service-life indicator, which is typically indicated by changing colors.

#### **Change-out schedule**

In applications in which respirator use is mandated, OSHA requires employers to maintain a respirator cartridge change-out schedule as part of their written respirator program. The purpose of this schedule is to replace the cartridges before they reach the end of their service lives. OSHA has three basic approaches to developing a change-out schedule: conduct experimental tests, use the manufacturer's recommendations or use a math model. Each approach has its own advantages and disadvantages. For more in-depth explanations of these approaches and help you choose the one that is appropriate for your application, go to OSHA's website.

Remember that safety and compliance are the most important considerations. OSHA recommends applying a "safety factor" to your change-out schedule to ensure the maximum life span or a cartridge is never exceeded. It's always better to replace filters and cartridges more often to ensure clean air flow for user comfort and compliance. Once again, if you need more information regarding changing out filters and cartridges, consult the manufacturer and/or the OSHA website.