

## FACTS ABOUT

## California's Regulation to Limit Ozone Emissions from Indoor Air Cleaning Devices

### What does the regulation do?

The California Air Resources Board (ARB) has adopted a regulation to limit ozone emissions from indoor air cleaning devices. After October 18, 2010, all indoor air cleaners sold in, or shipped to, California must meet certain ozone emission and electrical safety standards. These air cleaners must produce an emission concentration less than 0.050 parts per million (ppm) of ozone. (A good way to think about the size of 1 ppm is to picture one drop in 15 gallons of water.) Also, the packaging must be labeled to indicate the air cleaners are certified.

### What is ozone?

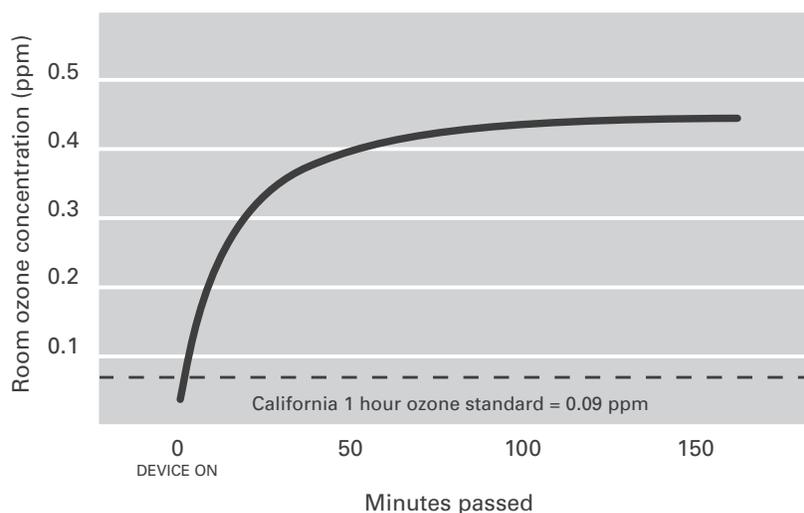
Ozone is a reactive gas comprised of three oxygen atoms. It is a well-documented air pollutant. Sometimes, manufacturers of devices that intentionally generate ozone misleadingly refer to it as "activated oxygen," "super oxygenated" or a similar term; however, oxygen molecules are comprised of just two oxygen atoms. Ozone has a sharp odor similar to chlorine, but odor is not a good way to tell if you are exposed to ozone because ozone numbs the sense of smell.

### Why should I be concerned about ozone?

Ozone high in the atmosphere protects you from the sun's harmful rays, but at ground level, where you breathe, it can be harmful to your health. Within hours, ozone can irritate the lining of your respiratory system and can cause coughing, chest tightness and shortness of breath. It can also seriously damage the cells in your lungs and airways. Long-term exposure to ozone may both cause and worsen asthma symptoms and worsen lung disease; it might also increase the risk of premature death. The effects depend on the concentration of ozone in the air, your level of physical activity, how long you are exposed to ozone, and how sensitive you are to it. Ozone can also react with other chemicals, such as terpenes (fragrance chemicals that give pine or citrus scent to some household products), to produce toxic byproducts such as formaldehyde.

### Room Ozone Concentration

with use of ozone generator



The figure on the left shows ozone concentrations produced from one type of air cleaner that intentionally emits ozone. It shows how the concentration in a small room can increase quickly to levels several times that of the California Ambient Air Quality Standard (CAAQS) for outdoor ozone. The CAAQS for ozone is 0.09 ppm for a 1-hour average, and 0.070 ppm for an 8-hour average. CAAQSs define the maximum amount of a pollutant that can exist in outdoor air without harming the public's health. The 0.050 ppm limit was established to protect public health indoors.

## What types of indoor air cleaning devices are regulated?

Any air cleaner used in a space that can be occupied by people is covered by the regulation, except for “in-duct” air cleaners and those used for certain industrial applications exempted in the regulation. Portable devices small enough for people to wear or carry as well as devices designed to clean a room, building or vehicle are regulated. Mechanical air cleaners, ionizers, electrostatic precipitators, photocatalytic oxidation air cleaners, plasmacluster devices, corona discharge ozone generators, and others are all covered by the regulation. Some of these air cleaners do not produce ozone, some generate low amounts indirectly, and some generate large amounts of ozone on purpose.

## When and where can I buy a certified indoor air cleaner?

The regulation’s compliance date is October 18, 2010. After this date, only devices that comply with the regulation may be sold or offered for sale, or otherwise introduced into commerce in California. Only certified indoor air cleaners that limit the production of ozone are legal in California after that date, regardless of whether the product is sold in a store, online, in a catalog, or in some other way. The compliance date was set to give manufacturers and sellers of indoor air cleaners time to have their air cleaners tested and certified, and label the packaging. Specific labeling is required, too.

A sample label that must be used on all non-medical devices is shown. Labels for medical devices must comply with federal laws for medical devices and must also state “ARB certified.” If you buy an air cleaner online or from a catalog after the compliance date, the advertisement must clearly indicate if a model cannot be sold in, or shipped to, California.

### SAMPLE LABEL

**This air cleaner complies  
with the federal ozone  
emissions limit.**

**ARB CERTIFIED**

If you want to buy a safe indoor air cleaner before October 18, 2010, or if you want to know if your current air cleaner produces too much ozone, check our webpage, “Hazardous Ozone-Generating ‘Air Purifiers’,” at [www.arb.ca.gov/research/indoor/ozone.htm](http://www.arb.ca.gov/research/indoor/ozone.htm). There, you can find out which ones to avoid and obtain advice on how to select a safe indoor air cleaner. As devices are certified, they will be added to our webpage that lists certified air cleaners, at [www.arb.ca.gov/research/indoor/aircleaners/certified.htm](http://www.arb.ca.gov/research/indoor/aircleaners/certified.htm).

## For More Information

Please contact the ARB Public Information Office at (916) 322-2990. You may also contact ARB’s Indoor Air Quality Program staff by calling (916) 445-0753 or (916) 322-8282 (message line) or by sending an email to [aircleaners@listserv.arb.ca.gov](mailto:aircleaners@listserv.arb.ca.gov). To receive periodic updates and information about air cleaners and indoor air quality, sign up for our email list-serv at: [www.arb.ca.gov/listserv/listserv.php](http://www.arb.ca.gov/listserv/listserv.php).

To obtain this document in an alternative format or language please contact the ARB’s Helpline at (800) 242-4450 or at [helpline@arb.ca.gov](mailto:helpline@arb.ca.gov). TTY/TDD/ Speech to Speech users may dial 711 for the California Relay Service.