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Sales and Information Package for AllerAir Registered Dealers

Air Purification for Areas Affected By Forest Fire Smoke

Documents in the Package

1. Document List
2. Article from LA Times
3. Information from the WHO and USDA forest Service
4. Information on the health effects of smoke exposure
5. Air purifiers for fire personnel
6. Information sheets on suitable air purifiers
7. Information on High Efficiency Air Purification
8. Spec sheets on AllerAir 3000 vocarb
9. Spec sheets on AllerAir 5000 vocarb
10. Spec sheets on AllerAir I-6500
11. Full page flyer/ advertisement
12. Half page flyer/ advertisement

AQMD Issues Health Alert

By Gary Polakovic, Times Staff Writer

As the pall of dense smoke from growing wildfires spread Sunday, the South Coast Air Quality Management District issued a "smoke advisory" for much of Southern California, declaring that the air poses a significant health risk in virtually all of the nondesert portions of the region.

The AQMD's executive officer, Barry Wallerstein, urged area residents, especially youths engaged in sports, to avoid vigorous outdoor activities.

"This is covering a large geographic area, and people ought to curtail their outdoor exercising," Wallerstein said. "The precautionary thing to do is stop exercising when ash is in the air and you smell smoke. It's especially important for youth athletic teams. They should not be playing outdoor soccer, baseball, or sports with vigorous exercise."

AQMD officials said they anticipated that the smoke advisory would remain in effect today as dry Santa Ana winds and low humidity were expected to stoke flames throughout the day.

Among the places affected by the smoke advisory, to date, are the Inland Empire, the San Bernardino Mountains, the San Gabriel and San Fernando valleys, much of Ventura County and inland Orange County. Areas of coastal Los Angeles and Orange counties were not covered by the advisory.

Western Riverside and San Bernardino counties have borne the brunt of the smoke for several days. Air pollution measurements over Mira Loma and Upland over the weekend revealed concentrations of microscopic particles up to 400 micrograms per cubic meter of air — more than twice the limit the U.S. Environmental Protection Agency deems safe.

The AQMD warned that people should respond as if a severe smog episode were underway.

Area hospitals reported a slight increase in patients with pulmonary problems.

At Chino Valley Medical Center, there were more patients and fewer doctors and nurses as a consequence of the fires.

"Yesterday [Saturday] was unbelievable. Physicians and nurses couldn't make it in because they were evacuated from their homes, and we had a lot of asthmatics coming in

Unlike ozone, the main ingredient of smog in Southern California, smoke is a **highly complex mixture of particles and gases**. High temperatures make lots of tiny particles that are easily inhaled. About 90% of the pollutants in smoke are microscopic particles, including tar, soot and assorted chemicals.

for treatment," said Chino Valley nursing supervisor Lana Van Sant.

"These fires generate a lot of gases and particles,"

Hospitals in San Diego and Ventura counties also reported more emergency room patients than usual. Most patients were treated and released.

"We are on code yellow. It's a general code that means there's a major disaster and to be prepared," said Julie Taber, spokeswoman for Palomar Medical Center in Escondido.

Unlike ozone, the main ingredient of smog in Southern California, smoke is a highly complex mixture of particles and gases. High temperatures make lots of tiny particles that are easily inhaled. About 90% of the pollutants in smoke are microscopic particles, including tar, soot and assorted chemicals.

Carbon monoxide and nitrogen oxides, the same stuff that comes from auto tailpipes, are also produced by wildfires, especially near the flames. Carbon monoxide robs the body of oxygen and can cause headaches, dizziness and asphyxiation. Other chemicals are present too, including formaldehyde, acids and a class of cancer-causing compounds called polycyclic aromatic hydrocarbons.

said Henry Gong, professor of medicine at USC and a clinical researcher at Rancho Los Amigos National Rehabilitation Center in Downey. "It's much worse than a typical smoggy day because you're adding the emissions from a fire to what we typically have."

Recent studies from Singapore and elsewhere in Southeast Asia show that people living and working around wildfires have significantly higher white blood cell counts, an indication that the body is marshaling its defenses to fight inflammation, Gong said.

Winds that fan the flames, too, carry dust from desert areas and pollens that can contribute to air pollution and make people with allergies or respiratory conditions feel generally miserable.

If you want other stories on this topic, search the Archives at [latimes.com/archives](https://www.latimes.com/archives).

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Smoke from forest fires may have short-term and intermediate health effects.

These effects have been shown to be reversible in most cases.

The following information and recommendations were developed in large part from

“Health Hazards of Smoke: Recommendations of the Consensus Conference, April 1997”

of the USDA Forest Service and the World Health Organization’s

“Guidelines on Vegetative Fire Emergencies for Public Health Protection”

Here are some of the known components of forest or wildland fire smoke:

- **Particulate Matter** -- course visible and fine invisible particles, including soot and ash, that can reach deep into your lung and may contain many cancer causing (that is, carcinogenic) compounds.
- **Polynuclear aromatic hydrocarbons (PAH)** -- one class of organic compounds found on the particulate matter from forest fires, wood-stoves, pine needles, and fireplaces, some of which may be carcinogenic.
- **Carbon monoxide (CO)** -- a colorless, odorless, toxic gas produced in highest amounts for a few minutes after dousing the fire or in smoldering forest fires.
- **Aldehydes** -- compounds extremely irritating to the eyes and mucous membranes of the mouth and nose. Some like formaldehyde are carcinogenic, while others like acrolein can injure lung tissue.
- **Volatile organic compounds** -- strong irritants, some of which are carcinogenic

Recommendations

1. If you are located in an area where you can smell smoke, or you experience symptoms of cough, eye, nose, mouth, or throat irritation, then move indoors and stay there with the windows closed as long as it is safe to do so.
2. If you continue to smell smoke and experience these symptoms when indoors, then consider evacuating to another location, away from the fire and smoke.
3. If you have asthma, emphysema, chronic bronchitis that do not respond to your regular medications or you have severe symptoms of headache, dizziness, nausea, prolonged cough, sore throat, or shortness-of-breath, visit an urgent care/emergency room or contact your medical provider.
4. Avoid ongoing exposure to smoke—if smoke is causing eye, nose, throat, or lung irritation, remain indoors or leave the area if possible.
5. Listen for public messages of additional precautions that would be announced if

conditions change. At most, persons within the area affected by the smoke plume might be advised to evacuate the area.

6. For more severe shortness of breath, chest pain, decreased mental function or other life-threatening condition, call 911 immediately

Notes: In a CDC survey of persons exposed to smoke during a fire in California

- Fewer symptoms were reported in persons who ran a Hepa filter in their homes.
- Personal masks were not helpful because smoke particles are too small to be filtered
- Public Service Announcements were successful in encouraging persons to stay indoors.

Like cigarette smoke, forest fire smoke can eventually damage your body's ability to remove

large particles from smoke and excess phlegm from your lungs and airway. The health lung has

a remarkable ability to recover from the effects of smoke when it is provided time to recover

Health Effects Of Smoke Exposure

Immediate effects of short-term exposure to forest fire smoke include:

- Sore eyes
- Tearing of eyes
- Cough
- Runny nose

Other symptoms often experienced from smoke exposure in combination with physical exhaustion, psychological stress, and poor nutrition include:

- Cold symptoms
- Persistent cough
- Sore throat

Signs of high blood levels of carbon monoxide (CO) include:

- Headaches
- Dizziness
- Nausea
- Decreased mental function

Intermediate effects exposure to forest fire smoke (from days to weeks) include:

- Lung or airway congestion
- Persistent cough

Smoke exposure in combination with physical exhaustion, psychological stress, and poor nutrition can lead to:

- Acute bronchitis

Prolonged exposure. It is very unlikely that you will ever experience this from forest fire smoke

and little is known about its effects. The risks are probably the same for cigarette smoking, and

include heart disease, stroke, chronic bronchitis and emphysema (COPD), and cancer.

Note: The mixture of particles, liquids, and gaseous compounds found in smoke from wildland

fires is very complex, and include compounds that can irritate and even injure the tissues of your

mouth, nose, throat, and lungs. During past fires in Florida, an increase in emergency department visits was seen for asthma, acute worsening of chronic bronchitis, eye irritation, chest

pains, shortness of breath, and wheezing.

(MMWR, 48[04]; February 5, 1999, pages 78-79)

Air Purification for Firefighting Crews Rest Areas and Vehicles

When firefighting personnel come back to vehicles and rest areas what are they breathing?

Here are some of the known components of forest or wildland fire smoke:



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- **Volatile organic compounds** -- strong irritants, some of which are carcinogenic

The highest level of fitness is demanded of these exceptional people.

Give them the opportunity to breathe clean air before they go back out to carry on the fight.

Aller Air High Efficiency Air Purifiers will do the job.

Choose the standard, industrial or institutional format

Call:



5000 Vocarb



5000 Pro



I-6500 Series

The 5000 and 4000 Vocab Air Purifiers

An excellent choice to combat the hazardous effects of forest fire smoke

Combine

True HEPA Filtration for particles such as ash, soot and dust particles

with

Specially Blended Activated Carbon for hydro-carbons such as tars and creosote and aldehydes, such as formaldehyde (which is carcinogenic) and acroleins (which injure lung tissue)

4000 Vocab



Compact Air Purification for Volatile Organic Compounds

- 10 lbs specially blended impregnated activated carbon filter for VOCs (volatile organic compounds)
- True HEPA filter for particles
- Cleanable pre-filter for larger particles
- 2 anti-microbial filters to suppress bacteria
- 3 speed 400 cfm
- Effective for 1200 Sq. ft.
- Changes air every 30 minutes

\$399.98

5000 Vocab



Full Size Air Purification for Volatile Organic Compounds

- 18 lbs specially blended impregnated activated carbon filter for VOCs (volatile organic compounds)
- True HEPA filter for particles
- Cleanable pre-filter for larger particles
- 2 anti-microbial filters to suppress bacteria
- 3 speed 400 cfm
- Effective for 1500 Sq. ft.
- Changes air every 30 minutes

\$499.98

The I-6500 Institutional Air Purifiers

An excellent choice to combat the hazardous effects of forest fire smoke in large areas such as hospitals and gymnasiums

Combine

True HEPA Filtration for particles such as ash, soot and dust particles

with

Specially Blended Activated Carbon for hydro-carbons such as tars and creosote and aldehydes, such as formaldehyde (which is carcinogenic) and acroleins (which injure lung tissue)

I-6500 A



Chemical, Odor or Particulate Filtration for Large Areas

- 500 to 1,000 CFM
- 80 activated carbon gas phase filter
- HEPA Filter removes 99,97% of particulates down to 0.3 microns
- Application specific blends available for VOCs and specific chemicals
- System pressure gauge. Internally fused for maximum current protection
- Superb unit for high dust and airborne chemical, gas and odor removal

\$2,999.98

I-6500 B-C-D



Chemical, Odor or Particulate Filtration for Large Areas

- 500 to 1,000 CFM
- 80 activated carbon gas phase filter
- HEPA Filter removes 99,97% of particulates down to 0.3 microns
- Application specific blends available for VOCs and specific chemicals
- System pressure gauge. Internally fused for maximum current protection
- Superb unit for high dust and airborne chemical, gas and odor removal

**From
\$1,799.98**

Activated Carbon is the only safe, cost effective way to trap noxious gases and odors.

■ What it does and how it works.

Activated carbon is carbon that has been treated with oxygen to open up millions of tiny pores between the carbon atoms. There are so many of these that one pound of activated carbon has a surface area of 60 to 150 acres.

■ The technology used in military gas masks.

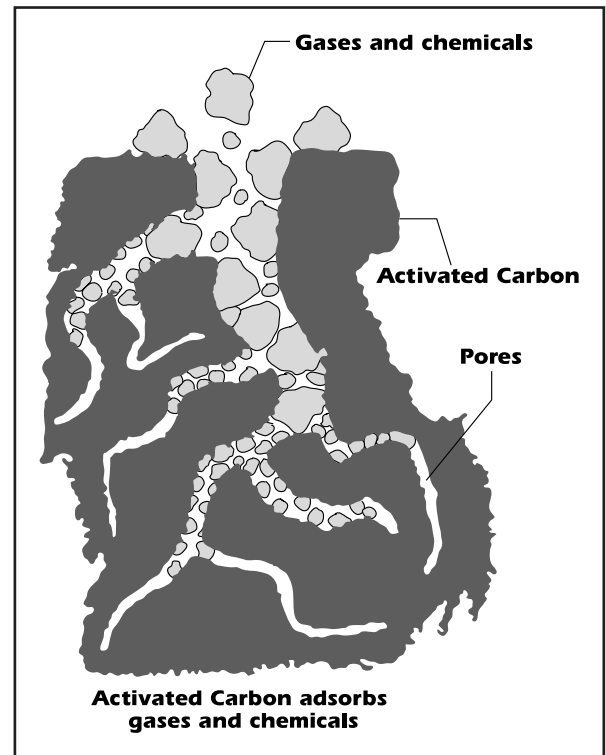
Activated carbon is the substance that keeps military personnel safe from poisonous gases. It is also used for water filtration.

■ Adsorption is the process where certain chemicals are attracted to the activated carbon and then bond to it. The millions of pores in the activated carbon provide an enormous surface area for these chemicals to bond with.

■ The bigger the filter the more chemicals it adsorbs and the longer it keeps on working.

An activated carbon filter acts rather like a sponge. When it is full it can adsorb no more. The more carbon you have the more you can adsorb before changing the filter. AllerAir MAC-B carbon filters have from 7 to 48 lbs. and will last from 9 to 24 months. Most off the shelf cleaners have only a few token ounces of carbon sprayed on a mesh. Its not enough to have any useful long term effect.

■ Activated carbon can be impregnated with catalysts that enable it to attract non-carbon based chemicals. These special blends of activated carbon are available for AllerAir air cleaners. Our air quality experts will recommend the right solution to any air contamination problem you encounter.



Other methods sometimes used, that we recommend you avoid.

- **Ozone** is used as an air purifier. This method creates unstable oxygen molecules that convert airborne chemicals into different substances by oxidization. This may neutralize these materials but it does not remove them. Worse, ozone attacks the lining of the lungs and is a known carcinogen.
- **Ionization** is a process that sends an electric charge into the room. This ionizes the particles which then stick to the walls and must be cleaned off. It is of limited use in disaster clean up situations.
- **Electrostatic plates** attract particles by an electrostatic charge in the plates. These very quickly become full and tend to attract mold. Consequently if they are not washed at least every 72 hours they will shrink to 20% efficiency. This method also gives off small amounts of ozone.

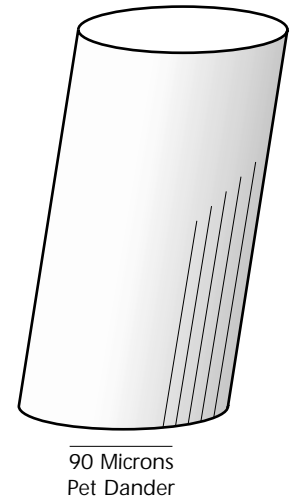
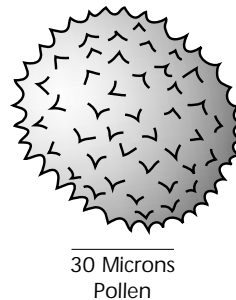
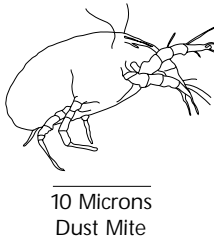
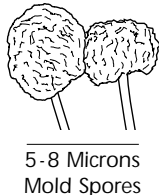
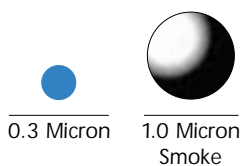
AllerAir: using the power of activated carbon to bring you the benefits of truly clean air.

- **At AllerAir we are dedicated to bringing the benefits of clean air to our clients.** Our team will not compromise in reaching the goal of providing the best air purification technology to remove not only particles from the air but also the gases and odors that are the real source of so much respiratory distress and risk to long term health. Activated carbon, combined with HEPA filtration, is the only technology that can safely and economically clean your indoor air. It is the technology used in AllerAir air cleaners.

How the AllerAir high efficiency air cleaning system works.

AllerAir air cleaners use a 4 phase filtering system. In the order that the air passes through them they are: the pre-filter, the mass activated carbon bed (MAC-B™) filter, the 2 anti-microbial filters and the HEPA filter.

- 1 The pre-filter traps larger dust particles and is easily removed and cleaned with a vacuum cleaner. It acts to stop the larger particles such as dust and lint from clogging the other filters.
- 2 The mass activated carbon bed (MAC-B™) filter adsorbs gases and odors. (Adsorb: no it's not a typo. This is the process by which activated carbon captures gases and odors.) Most off the shelf air cleaners have a few token ounces of carbon sprayed on the pre-filter. This is not sufficient to capture more than a small amount of the noxious gases and odors in the air and for only a short period of time. The MAC-B carbon filter has pounds of activated carbon (from 7 to 160 lbs.) that will trap 90% of gases and odors that pass over it and for many months before needing to be replaced.
- 3 The 2 anti-microbial filters kill the airborne microbes that pass through them.
- 4 The HEPA filter traps the airborne particles. These filters, which were developed by the Atomic Energy Commission to trap radio-active particles, can capture 99.97% of particles as small as 0.3 microns. That is as small as some bacteria.



Other filtering options for special cases.

- Ultraviolet lamps are available in some models to sterilize airborne micro-organisms such as bacteria, viruses and mold.
- ULPA filters are like HEPA filters but they can trap 99.999% of particles as small as 0.01 microns.

The importance of a metal casing to avoid plastic off gassing.

- AllerAir air cleaners are housed in a baked enamel metal casing. Unlike plastic, metal casings are completely inert and do not give off plastic vapors into the indoor air.