

## EPA's Independent Science Advisors Tell EPA to Strengthen Ozone Standard



**EPA's official scientific advisors have unanimously weighed in on the current ozone standard and said unequivocally that it must be stronger.**

The Clean Air Scientific Advisory Committee (CASAC) is chartered under the Clean Air Act to advise the EPA Administrator on the review of the official limits on six widespread air pollutants, formally known as the National Ambient Air Quality Standards (NAAQS). In their review, the CASAC examined a 2,000-page summary of the scientific research on the health effects of ozone and an extensive separate analysis by the EPA staff. After reviewing these, the 23-member panel reported to EPA these unanimous recommendations:<sup>1</sup>

- **The current standard fails to protect public health from the harmful effects of ozone, the nation's most widespread outdoor air pollutant.**
- **EPA should set the 8-hour ozone standard much lower—in the range of 0.060 to 0.070 parts per million (ppm)—to adequately protect public health.**
- **EPA should eliminate the “rounding” loophole that weakens the current standard and leaves millions of Americans unprotected.**

It is highly unusual—perhaps unprecedented—for the CASAC to make such strong and unanimous recommendations. Below are quotes from their comments on each point.

### **1. The current standard fails to protect public health from the harmful effects of ozone.**

The panel repeatedly stated: **“There is no scientific justification for retaining the current primary 8-hr NAAQS of 0.08 parts per million (ppm), and the primary 8-hr NAAQS needs to be substantially reduced to protect human health, particularly in sensitive populations.”**

*“Additionally, we note that the understanding of the associated science has progressed to the point that there is no longer significant scientific uncertainty regarding the CASAC's conclusion that the current 8-hr primary NAAQS must be lowered. A large body of data clearly demonstrates adverse human health effects at the current level of the 8-hr primary ozone standard. Retaining this standard would continue to put large numbers of individuals at risk for respiratory effects and/or significant impact on quality of life including asthma exacerbations, emergency room visits, hospital admissions and mortality.”*

*“...on the basis of the large amount of recent data evaluating adverse health effects at levels at an below the current NAAQS for ozone, it is the unanimous opinion of the CASAC that the current primary ozone NAAQS is not adequate to protect human health.”*

### **2. The 8-hour ozone standard should be set in the range of 0.060 to 0.070 ppm.**

*“Therefore, the CASAC unanimously recommends a range of 0.060 to 0.070 ppm for the primary ozone NAAQS.”*

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<sup>1</sup> Letter from Dr. Rogene Henderson, Chair, Clean Air Scientific Advisory Committee to Stephen L. Johnson, Administrator, U.S. Environmental Protection Agency, re Clean Air Scientific Advisory Committee's (CASAC) Peer Review of the Agency's 2<sup>nd</sup> Draft Ozone Staff Paper, EPA-CASAC-07-001, October 24, 2006.

“Several new single-city and large multi-city studies designed specifically to examine the effects of ozone and other pollutants on both morbidity and mortality have provided more evidence for adverse health effects at concentrations lower than the current standard... These studies are backed-up by evidence from controlled human exposure studies that also suggest that the primary ozone NAAQS is not adequate to protect human health (Adams, 2002; McDonnell, 1996).”

“Furthermore, we have evidence from recently reported controlled clinical studies of healthy adult human volunteers exposed for 6.6 hours to 0.08, 0.06, or 0.04 ppm ozone, or to filtered air alone during moderate exercise (Adams, 2006). Statistically-significant decrements in lung function were observed at the 0.08 ppm exposure level. Importantly, adverse lung function effects were also observed in some individuals at 0.06 ppm (Adams, 2006). *These results indicate that the current ozone standard of 0.08 ppm is not sufficiently health-protective with an adequate margin of safety.* It should be noted that these findings were observed in healthy volunteers; similar studies in sensitive groups such as asthmatics have yet to be conducted. However, people with asthma, and particularly children, have been found to be more sensitive and to experience larger decrements in lung function in response to ozone exposures than would healthy volunteers (Mortimer *et al.*, 2002).”

“Going beyond spirometric decrements, adverse health effects due to low-concentration exposure to ambient ozone (that is, below the current primary 8-hour NAAQS) found in the broad range of epidemiologic and controlled exposure studies cited above include: an increase in school absenteeism; increases in respiratory hospital emergency department visits among asthmatics and patients with other respiratory diseases; an increase in hospitalizations for respiratory illnesses; an increase in symptoms associated with adverse health effects, including chest tightness and medication usage; and an increase in mortality (non-accidental, cardiorespiratory deaths) reported at exposure levels well below the current standard. *The CASAC considers each of the findings to be an important indicator of adverse health effects.*”

*“Accordingly, the CASAC unanimously recommends that the current primary ozone NAAQS be revised and that the level that should be considered for the revised standard be from 0.060 to 0.070 ppm, with a range of concentration-based forms from the third- to the fifth-highest daily maximum 8-hr average concentration.”*

### **3. EPA must eliminate the “rounding” loophole that weakens the current standard and leaves millions of Americans unprotected.**

There is an old loophole that lets many communities claim to be meeting the standard for ozone when they aren't. In the past, when the monitoring equipment was much less accurate, EPA agreed to allow regulators to round down to the nearest two decimal places. Because of this policy, areas do not have to clean up pollution until concentrations reach 0.085 ppm, making the “real” standard much weaker than the official one.

Millions of Americans live in communities where official ozone concentrations consistently hover between 0.081 and 0.084 ppm—with more pollution than the standard would seem to allow, but just low enough not to be forced by EPA to clean up any more. Unhealthful concentrations of ozone continue unabated. CASAC recommends that EPA eliminate this “rounding loophole.”

“The CASAC further recommends that the ozone NAAQS should reflect the capability of current monitoring technology, which allows accurate measurement of ozone concentrations with a precision of parts per *billion*, or equivalently to the third decimal place on the parts per million scale. In addition, given that setting a level of the ozone standard to only two decimal places inherently reflects upward or downward “rounding,” *e.g.*, 0.07 ppm includes actual measurements from 0.0651 ppm to 0.0749 ppm, the CASAC chooses to express its recommended level, immediately below, to the third decimal place.

**U.S. EPA Science Advisory Board  
Clean Air Scientific Advisory Committee (CASAC) Ozone Review Panel**

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