

*Statement
Before OMB*

1. EPA has already taken steps that will largely remove lead from the nation's atmosphere.

Leaded Gasoline. In 1981, gasoline consumption accounted for 85.9 percent of the 40,739 tons of lead emitted into the atmosphere in the United States. EPA has since promulgated new lead phasedown regulations that will all but eliminate leaded gasoline, and is considering a total ban.

Industrial Emissions. In 1978, EPA adopted National Ambient Air Quality Standards limiting atmospheric lead concentrations to 1.5 ug/m^3 . At that time, lead concentrations around major sources averaged as high as 17 ug/m^3 or more -- almost 12 times the level permitted by the new lead standards. Plans for implementing the lead standards have been adopted in all but two states. As these plans are carried out, lead industrial emissions, which accounted for less than 15 percent of the U.S. total in 1981, will drop to a fraction of their former levels.

2. Despite the steps it has already taken, EPA is now considering reducing the national lead standards still further.

The Present Standard. EPA adopted the existing 1.5 ug/m^3 lead air standard on the basis of three principal findings:



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First, anemia occurs in children at blood lead levels of 40 ug/dl, and a blood level of 30 ug/dl would assure protection against anemia with an adequate safety margin.

Second, one microgram of lead in air produces two micrograms of lead in blood (the so-called air lead/blood lead ratio).

Third, in order to bring the blood lead levels of virtually all U.S. children below 30 ug/dl, the mean blood would have to be 15 ug/dl. Since there was evidence that the average child's background blood lead from non-air sources was 12 ug/dl, the permissible air concentration was 3 ug/dl ($15-12=3$) which, employing the 1:2 air lead/blood lead ratio dictated a standard of 1.5 ug/dl.

EPA's Current Review of the Lead Standard. EPA is completing work on a revised lead criteria document. Early drafts of that document and of a staff report recommending a possible reduction in the lead standards based on the document, indicate that EPA may lower the 30 ug/dl blood lead threshold for adverse effects to 20-25 ug/dl based on seven blood lead effects observable, or alleged to occur, at lower levels.

As the accompanying papers show, four of these effects -- inhibition of Py-5-N, ALA and FEP elevation and reduction of



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vitamin D activity -- are detectible at lower blood lead levels, but the Criteria Document does not state in what way these effects are harmful. Indeed, because of improved laboratory analysis techniques, a number of enzymatic and other bodily reactions to lead can be detected at blood lead levels as low as 5 ug/dl, far below the 30 ug/dl threshold for adverse health effects established by EPA in 1978, but this does not mean such effects are harmful.

As to a fifth effect, on cognition, an expert panel appointed by EPA found that there were "no studies that, to date, have validly established . . . a relationship between low level lead exposure and neurophysiologic deficits in children."

The remaining two effects, hypertension and electrophysiological responses, are highly debatable and have been questioned by experts.

4. The costs and benefits of reducing the lead standards are being investigated. Separate cost studies are being done by the Bureau of Mines (for primary smelters) and by the Lead Industry Association (LIA) for primary and secondary smelters and battery plants. An LIA study of the number of children with blood lead levels above 20-25 ug/dl who might be affected by a reduced standard is being done by an LIA contractor, TRC. These studies will be completed in 1986.

