

SafeMinds Supports EPA Regulation of Toxic Fly Ash

Fly ash, a by-product of coal burning energy contains mercury and many other harmful metals and toxins. Mercury is a well known neurotoxin that is especially damaging to the developing fetus, infants and children because their organ systems, especially the brain, are still growing and maturing (1).

Recent findings document higher concentrations of mercury in infant cord blood compared to the mothers' blood at time of birth. According to recent NHANES data, 15% of women of childbearing age had blood levels at or above EPA safe levels of 3.5 PPB, which equates to 630,000 of the roughly 4 million babies born annually in the United States at risk for neurological injury (2).

The developing nervous system is a target organ for mercury toxicity, especially in male infants. Both autism and ADHD are four times more common in boys than girls. Children with neurodevelopmental disorders, like autism, appear to be more prone to mercury neurotoxicity because they have reduced levels of glutathione, the body's natural chemical for metabolizing and excreting mercury from the body (3). This finding is supported by another study, which reports that for each 1000 lb of environmentally released mercury, there was a 43% increase in the rate of special education services and a 61% increase in the rate of autism (4).

Children with autism were also found to have more than double the amount of mercury in their baby teeth compared to normally developing children (5) and a specific biomarker for heavy metal toxicity, precoproporphyrin, has been found to be significantly elevated in autistic children relative to controls (6). Another study reports that there was a 50% higher risk of autism associated with the upper quartile of exposure to heavy metals and chlorinated solvents (7).

Environmental exposures like those that can occur from coal ash are especially damaging to infants and children because their biological systems like the brain are still developing. During fetal development, exposures to even minute levels of environmental toxins during critical windows of development can have lifelong adverse neurological and health effects. Therefore, the Coalition for SafeMinds asks that the EPA please help us to protect our nation's most valuable resource, our children, by regulating the disposal of coal combustion by-products as hazardous waste.

References:

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