



***Getting Lead Out of Gaming  
Chips in California***



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# Introduction

This report announces a ground-breaking agreement to significantly reduce lead from a product that is commonly used in California, but not well known to contain lead, casino gaming (poker) chips.

Lead is a stunningly toxic metal. A long list of problems has been linked to lead exposure: lowered intelligence, behavior problems, cancer, strokes, high blood pressure, kidney problems, anemia, cavities, and delayed puberty.

It is well known that children are particularly susceptible to the effects of lead, but lead's effects on adults are also of concern. It's especially alarming that exposure to lead during pregnancy can reduce the later intellectual development of a woman's unborn child.

# **New Legal Agreements about Gaming Chips**

CEH has just finalized a legal agreement with Gaming Partners International and 21 California card rooms and casinos. The agreement requires chips sold by GPI after November 1, 2008 to contain no more than 50 parts per million lead. Previously, GPI used formulas for the ingredients in chips that contained as much as 470,000 parts per million lead, so the agreement represents an enormous reduction in potential lead exposure. The agreement also requires card rooms and casinos to begin purchasing chips with no more than 50 parts per million lead.

# Not Good for Pregnant Women

Two recent studies highlight the impacts that lead exposure during pregnancy can have on a women's unborn child. Because some pregnant women regularly visit or work at casinos, lead gaming chips can increase their exposure.

Both of the studies were published in the National Institute of Environmental Health Sciences's journal *Environmental Health Perspectives*.

The first study looked at IQ scores of children ages 6 to 10 in relationship to their mother's blood lead levels during pregnancy. The researchers concluded that "Lead exposure around 28 weeks gestation is a critical period for later child intellectual development, with lasting and possibly permanent effects. There was no evidence of a threshold; the strongest lead effects on IQ occurred within the first few micrograms of BPb [blood lead level]."

The second study looked at mental development of two-year-olds, again in relationship to lead exposure of their mothers during pregnancy. The researchers found that lead exposure during the first trimester (three month period), when some women are not even aware that they are pregnant, had the most pronounced effects.

Because of these kinds of problems, the state of California has identified lead as a chemical that causes developmental toxicity.

# Not Good for Other Adults Either

Lead also causes a wide spectrum of health problems in adults.

One significant disease caused by lead exposure is cancer. The International Agency for Research on Cancer, the U.S. Environmental Protection Agency, and the National Toxicology Program, have all identified lead as a cancer causing chemical.

Lead also reduces our ability to have healthy children. Two recent studies, one from the Taiwan Institute of Occupational Safety and Health and the other from Brown Medical School, showed that women with higher lead exposures were more likely to have infertility problems.

Other important diseases are also linked to lead exposure. Researchers from Tulane University and Johns Hopkins University recently showed that low level lead exposures are linked to a greater risk of heart attacks and strokes. Other recent studies showed that lead exposure increases blood pressure problems, accelerates kidney failure in patients with chronic kidney disease and is linked to an increased risk of Lou Gehrig's disease.

# Success!

During the past decade, the Center for Environmental Health has successfully negotiated agreements with manufacturers of other products that contain toxic chemicals. These agreements reduced the amount of toxic chemicals in children's medicines, wood play equipment, lunchboxes, jewelry, and candy. We used California's Safe Drinking Water and Toxic Enforcement Act of 1986, commonly known as Proposition 65, to initiate these actions. We are pleased to announce the same kind of agreement regarding gaming chips.

# References

## Introduction

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