

# Lead

## What is it?

Lead (known as Pb and number 82 on the periodic table) is a naturally occurring metal found in the earth's crust. Recent media reports highlight concern regarding lead exposure from food consumption.

## What is it used for?

Lead is used in plumbing, metal pipes and solder; paints; ceramic products; stained glass production; and health care products.

## Where do we find it?

Lead is found in chipped paint in older homes; in food through environmental contamination such as fossil fuel burning, mining, and manufacturing; and in drinking water mostly through pipe leaching, but also through earth deposits into well water.

## Why is there concern?

Lead accumulates in the body and affects the nervous system; children are especially susceptible. The U.S. Environmental Protection Agency (EPA) and the European Food Safety Authority (EFSA) were not able to set a tolerable intake for lead due to its low level of effect and variability in baseline lead accumulation in people.

## Is it safe? What is the safe level of use?

EPA has determined lead to be a "probable human carcinogen" and has set an action level for drinking water at 15 parts per billion (ppb).<sup>1</sup> In 1993, The U.S. Food and Drug Administration (FDA) set a Provisional Tolerable Total Intake level (PTTIL) in micrograms/day: 6 for children under 6, 15 for children 7 and up, 25 for pregnant women, and 75 for adults.<sup>2</sup> A lead risk assessment by EFSA estimated an average daily lifetime lead exposure for the European population at 0.68 micrograms/kilogram body weight per day.<sup>3</sup> While FDA did not estimate exposure, its Total Diet Study program has reported data on lead levels in the U.S. food supply from the last 20 years.<sup>4</sup>

## What is being done?

Lead use in gasoline, paint, solder, electronics and other materials have been reduced or eliminated by various U.S. and European government agencies in efforts to reduce consumer exposure.<sup>2</sup> In an effort to safeguard young children, The Centers for Disease Control and Prevention (CDC) monitors children's blood levels of lead.<sup>5</sup> Additionally, FDA continues to monitor the U.S. food supply for levels of lead.

## Summary:

FDA works with the food industry to reduce lead exposure, especially to children. For example, in 2006 FDA reduced its allowable level of lead in candy and continues to develop guidelines for other food levels of lead.<sup>6</sup>

## Referenced sources for Lead:

<sup>1</sup> <http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=93&tid=22>

<sup>2</sup> <http://www.fda.gov/ohrms/dockets/dailys/03/Sept03/091503/77N-0094I-c000005-06-tab4-vol8.pdf>



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<sup>3</sup> <http://www.efsa.europa.eu/en/search/doc/2831.pdf>

<sup>4</sup> <http://www.fda.gov/Food/FoodScienceResearch/TotalDietStudy/ucm184232.htm>

<sup>5</sup> <http://www.cdc.gov/nceh/lead/data/index.htm>

<sup>6</sup> <http://www.fda.gov/Food/FoodbornellnessContaminants/Metals/ucm233520.htm>

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