

## Thimerosal – Vaccine Preservative



Thimerosal is a mercury-containing preservative that has been used in some vaccines because it has a long record of safely and effectively preventing bacterial and fungal contamination of vaccines, especially multi-dose vials.

The organic form of mercury, methyl mercury, is the kind most often contaminating water, soil, plants, and seafood. It is more harmful to the body than inorganic forms of mercury, such as ethyl mercury.

Thimerosal is a derivative of ethyl mercury. Ethyl mercury from thimerosal-containing vaccines is rapidly eliminated from the body in the stool and does not appear to accumulate after routine immunizations.

No evidence of harm or ill effects of thimerosal have been established other than minor local reactions (such as redness at swelling) at the injection site. There is also no evidence of any harmful effect of thimerosal-containing vaccines on neurological or psychological outcome, including autism and attention deficit hyperactivity disorder (ADHD).

At present, all routinely recommended vaccines for children 6 years of age and younger are available as thimerosal-free formulations or contain only trace amounts of thimerosal ( $\leq 1$  microgram of mercury per dose). For comparison, 1 microgram is roughly equal to 1 particle of dust, and with each breath, we inhale approximately 2000 dust particles!

There are two reasons thimerosal is being taken out of vaccines. First, multi-dose vials are largely being replaced by single-dose vials, making the risk for contamination much lower. Second, other preservatives, that do not contain any mercury, can be used in some vaccines.

No studies have shown that thimerosal in vaccines is harmful. However, thimerosal is simply being eliminated from vaccines because it can be. For more information, please see [www.cdc.gov](http://www.cdc.gov)