



Additives In Vaccines

Key Messages

- Millions of doses of vaccines are administered to children in this country each year. Ensuring that those vaccines are potent, sterile, and safe requires the addition of minute amounts of chemical additives.
- Chemicals are added to vaccines to inactivate a virus or bacteria and stabilize the vaccine, helping to preserve the vaccine and prevent it from losing its potency over time.
- The amount of chemical additives found in vaccines is very small and may not be enough to cause a serious allergic response.
- The Federal government has asked vaccine manufacturers to work towards eliminating or reducing the use of thimerosal, a preservative which contains small amounts of mercury, in any products currently available on the market.

Facts

- Additives used in the production of vaccines may include 1) suspending fluid (e.g. sterile water, saline, or fluids containing protein); 2) preservatives and stabilizers to help the vaccine remain unchanged (e.g. albumin, phenols, and glycine); and 3) adjuvants or enhancers that help the vaccine improve its work.
- Common substances found in vaccines include:
 - **Antibiotics** which are added to vaccines to prevent the growth of germs (bacteria) in vaccine cultures.
 - **Formaldehyde** which is used to inactivate bacterial products for toxoid vaccines. It is also used to kill unwanted viruses and bacteria that might be found in cultures used to produce vaccines.
 - **Thimerosal** which is a preservative that might be added to prevent the vaccine from spoiling. Thimerosal is also found in some contact lens solutions and throat sprays.
 - **Monosodium glutamate (MSG)** and 2-phenoxy-ethanol which are used as stabilizers in a few vaccines to help the vaccine remain unchanged even in the presence of forces such as heat, light, acidity, humidity etc. MSG is also found in many foods, especially Asian foods and flavor enhancers.
 - **Aluminum** gels or salts of aluminum which are added as adjuvants to help the vaccine stimulate production of antibodies to fight off diseases and aid other substances in their action. In vaccines, adjuvants may be added to help promote an

earlier response, more potent response, or more persistent immune response to disease.

- **Egg protein** which is found in vaccines prepared using chick embryos. Ordinarily, persons who are able to eat eggs or egg products safely can receive these vaccines.

- For children with a prior history of allergic reactions to any of these substances in vaccines, parents should consult their child's health care provider before vaccination.

What you should know

- To find out what chemical additives are in specific vaccines, ask your health care provider or pharmacist for a copy of the vaccine package insert, which lists all ingredients in the vaccine and discusses any known adverse reactions.
- To assure the safety of vaccines, the Centers for Disease Control and Prevention (CDC), the Food and Drug Administration (FDA), the National Institutes of Health (NIH), and other Federal agencies routinely monitor and conduct research to examine any new evidence that would suggest possible problems with the safety of vaccines.
- To report a health problem that followed vaccination you or your provider should call the Vaccine Adverse Event Reporting System (VAERS) at 1-800-822-7967.

For more information contact

National Immunization Program, CDC:

National Immunization Hotline: English **(800) 232-2522**, Spanish **(800) 232-0233**

National Immunization Program web site: <http://www.cdc.gov/nip>