



How to Safely Prepare Baby Formula With Water

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Infant formula comes in three forms (</English/ages-stages/baby/formula-feeding/Pages/Forms-of-Baby-Formula.aspx>): powder formula, concentrated liquid formula and ready-to-feed (non-concentrated) formula.

If you use infant formula for your baby, no matter which form, be sure to follow directions closely.

Formula that is diluted with too much water, for example, can cause serious health and development problems for your baby. It's also important to use clean water for a safe source (</English/safety-prevention/all-around/Pages/Is-Your-Drinking-Water-Safe.aspx>) free of bacteria or other microorganisms that may cause disease, and low in certain minerals and contaminants that may be harmful. Read on to learn more.



When to add water & how much to use

Non-concentrated, ready-to-feed formula

Do not add any water non-concentrated, ready-to-feed formula. Remember, diluting it can be dangerous for your child (see below).

Concentrated liquid formula & powder formula

Use water to prepare concentrated liquid formula and powder formula, but only as directed. Use a safe water source as defined by your state or local government. Unless there is a known contamination of your local water source, you can use tap water (<https://www.fda.gov/food/people-risk-foodborne-illness/questions-answers-consumers-concerning-infant-formula#11>) to prepare concentrated liquid or powdered formula. In general, though, it is best to primarily use safe tap water that is fluoridated ([https://aapms365-my.sharepoint.com/personal/gbrown_aap_org/Documents/downloaded%20images/\(https://www.cdc.gov/fluoridation/faqs/infant-formula.html\)](https://aapms365-my.sharepoint.com/personal/gbrown_aap_org/Documents/downloaded%20images/(https://www.cdc.gov/fluoridation/faqs/infant-formula.html))) and occasionally use some non-fluoridated bottled water.

Why watering down formula is dangerous

News reports have found parents diluting formula to try and save money or feeding water in addition to breast milk or formula. This can lead to a dangerous condition called water intoxication.

Babies in the first 6 months after birth do not need water or other liquids such as juices in addition to formula or breast milk, unless specifically advised by a pediatrician. Adding extra water to formula or giving juices reduces the amount of nutrients baby will receive. This can slow growth and development. Extra water also disturbs electrolyte and mineral balances such as calcium, sodium and potassium which can lead to major health problems including seizures. So always mix formula as directed by the manufacturer unless specifically guided to change these instructions for infants with special health needs.

If you're using formula but having trouble **affording it** (</English/tips-tools/ask-the-pediatrician/Pages/how-should-we-feed-our-baby-if-running-low-on-money.aspx>) check with your pediatrician, local health department, food pantry or social service agency.

How to mix powder formula & water to prepare a bottle

The Center for Disease Control and Prevention (CDC) provides detailed instruction (<https://www.cdc.gov/nutrition/downloads/prepare-store-powered-infant-formula-508.pdf>) on preparing infant formula. Also look for instructions on the formula can labels, and from other reliable sources including state WIC agencies (<https://www.signupwic.com/>). There are a few key points to remember:

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1. **Water first, then powder.** Always add the powder to the water that is in the bottle, not the other way around.
2. **Boil the water when needed.** For infants under 3 months of age, those who were born prematurely and those who have a weakened immune system, hot water should be used to prepare formula to kill any microbes. To do this, **boil the water and let it cool for about 5 minutes.** Then, add it to a clean bottle and add the formula based on the instructions on the container.
3. **Cool formula to body temperature.** If you are going to use the formula you prepared immediately, be sure to cool the formula to body temperature before feeding your baby. Run the prepared, capped bottle under cool water or place it into an ice bath.
4. **Test the formula** temperature to make sure it is not too hot before feeding it to your baby (see below).

How to test the temperature of you baby's bottle

Test warmed water in advance to make sure it is not too hot for your baby. The easiest way to test the temperature is to shake a few drops on the inside of your wrist. Otherwise, a bottle can be prepared by adding powdered formula and room temperature water from the tap just before feeding. Bottles made in this way from powdered formula can be ready for feeding, as no additional refrigeration or warming would be needed.

How long is the bottle of formula good for after making it?

- Prepared formula must be discarded within 1 hour after feeding it from the bottle to your baby.
- Prepared formula that has not been fed to your baby may be stored in the refrigerator for 24 hours to prevent bacterial contamination (</English/health-issues/conditions/abdominal/Pages/Food-Poisoning-and-Food-Contamination.aspx>).
- An open container of ready-to-feed formula, concentrated formula, or formula prepared from concentrated liquid formula, should be covered, refrigerated and discarded after 48 hours if not used.

More information

- Is there a baby formula shortage? (</English/tips-tools/ask-the-pediatrician/Pages/are-there-shortages-of-infant-formula-due-to-COVID-19.aspx>)
- Is homemade formula safe? (</English/ages-stages/baby/formula-feeding/Pages/Is-Homemade-Baby-Formula-Safe.aspx>)
- Is it OK to buy imported formulas online? (</English/tips-tools/ask-the-pediatrician/Pages/Is-it-OK-to-buy-imported-formulas-online.aspx>)
- How much formula does my baby need? (</English/tips-tools/ask-the-pediatrician/Pages/How-much-formula-does-my-baby-need.aspx>)
- Infant Formula Preparation and Storage (CDC)
(<https://www.cdc.gov/nutrition/infantandtoddlernutrition/formula-feeding/infant-formula-preparation-and-storage.html>)

About Dr. Abrams



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