

How to Prepare and Feed Powdered Infant Formula

- Breastfeeding is the best way to feed your baby. You will need to give your baby infant formula if you do not breastfeed or if you only breastfeed some of the time.
- Breast milk or infant formula is the only food that your baby needs to grow and be healthy for the first six months of life. When your baby is six months old, begin adding solid foods and continue to give breast milk or infant formula.
- Keep breastfeeding your baby until age two or more. If you feed your baby infant formula, continue until they are 9 to 12 months old.

What type of infant formula should I choose?

- Choose a formula that is based on cow's milk protein.
- Choose a formula that is iron-fortified.
- Try to choose a formula that has the omega-3 fats DHA and ALA added. These fats help your baby's brain and eyes develop.
- Formula comes in 3 forms: powder, liquid concentrate and ready-to-feed. The instructions are different for each kind of formula.
- Carefully read the directions on the label about the right amount of formula and water to use. Measure the formula and water exactly. It could harm your baby if you add too little or too much water or powdered formula.

This factsheet will help you safely prepare and feed powdered infant formula.



Steps you can take

Unlike liquid formulas, powdered formula is not sterile. It may contain harmful bacteria. Your baby could get very sick if powdered formula is not prepared and stored properly.

Babies considered at greatest risk of getting sick from powdered formula:

- Are premature and less than 2 months old
- Are low-birth weight and less than 2 months old
- Have a weak immune system because of an illness or medical condition.

Ask your doctor if your baby is at greater risk. It is best to use liquid concentrate or ready-to-feed formula for these babies. These types of formula are sterile.

If you must use powdered infant formula, you will need to take special care when you prepare and store it. These instructions are important to follow to make sure the formula is safe.

How to Prepare Powdered Infant Formula

1. Gather what you will need to prepare powdered infant formula
 - Bottles, nipples, caps, rims
 - Nipple brush and bottle brush
 - Large pot with lid
 - Can opener
 - Tongs
 - Glass measuring cup
 - Fork

- Knife
2. Clean your hands, counter and all items that you will use to prepare formula.
 - Wash your hands with soap and warm water for at least 15 seconds. Rinse well. Dry hands with a paper towel. You may need to wash your hands more than once as you follow the steps.
 - Clean and sanitize the counter top.
 - Wash bottles and other items that will be used to prepare formula in warm soapy water. Use nipple and bottle brushes. Rinse well.
 3. Sterilize items that you will use to prepare formula.
 - Put items in a pot. Cover with water. Put lid on the pot and bring water to a boil. Time for at least 2 minutes when the water reaches a rolling boil.
 - Remove items with sterile tongs. Set on a clean paper towel or tea towel to cool.
 4. Boil the water that you will use to make the formula.
 - Run cold water for 2 minutes. This will get rid of standing water that has been in your plumbing system.
 - Bring a pot of water to a boil. Time for at least 2 minutes when water reaches a rolling boil. Do not use an automatic kettle that switches off as soon as the water boils. Do not use a microwave to boil water.
 - Cool the boiled water to 70°C. This takes about 30 minutes. Make sure the temperature of the water does not go below 70°C before you mix with the formula. Use a clean, sterile food thermometer to measure the temperature.
 5. Measure and mix the formula to make one bottle.
 - Check “use by” dates on the can of formula. Do not use after that date.
 - Make sure the can is clean and has no dents.
 - Pour boiled water cooled to 70°C into an empty sterile glass

measuring cup.

- Add the required number of scoops of powder. Follow directions exactly. Only use the scoop provided with the can of powdered infant formula. Fill the scoop with powder. Level with a sterile knife.
- Mix well with a sterile fork. There should be no lumps of powder.

6. Pour the mixed formula into the bottle.

- Pour the amount of formula needed for one feeding into the bottle.
- Pick up nipple, rim and cap with sterile tongs and put on the bottle. Tighten with your hands.

NOTE: For healthy babies if you are unable to prepare the formula with boiled water cooled to 70°C, boiled water cooled to room temperature may be safely used if the baby drinks the prepared formula right away.

How to make more than 1 bottle at a time

It is best to make one bottle of formula at a time and feed your baby right away.

If you want to prepare more than 1 bottle, it is very important to use boiled water cooled to 70°C. Make sure the temperature of the water does not go below this temperature before you mix the formula. Use a clean sterile food thermometer to make sure.

Tightly seal the bottles. Cool under running water. Place bottles in the refrigerator. Check that your refrigerator is 4 C or below. Harmful bacterial can grow if your refrigerator is above 4°C.

Use bottles within 24 hours.

Do not freeze prepared formula. Freezing changes the fat in infant formula.

How to Feed Your Baby

1. Getting formula to the right temperature

Cooling:

- Formula prepared with water that is 70 C is too hot to feed to your baby. Quickly cool the bottle by holding it under cold running water or placing it in a container of cold or ice water. To feed the baby it should be between room and body temperature.
- Shake or swirl the bottle well. Test a few drops of the formula on the inside of your wrist to check the temperature.

Warming:

- To warm prepared formula, place the bottle in a bottle warmer or in a container of hot water for no more than 15 minutes. It should be between room and body temperature.
- Do not warm bottles in the microwave. It can create hotspots that can scald your baby's mouth.
- Shake or swirl the bottle well. Test a few drops of the formula on the inside of your wrist to check the temperature.

2. Feeding

- Before you feed your baby, check that the hole in the nipple is the right size. When you hold the bottle upside down, about one drop per second should come out.
 - Always hold your baby when giving a bottle. Never prop the bottle or leave your baby to feed himself. Propping a bottle can cause choking.
 - Tilt the bottle up so that the nipple is full of formula. This will prevent your baby from swallowing air and causing gas.
 - Never put your baby to bed with a bottle. It can cause choking and tooth decay.
 - Never force the nipple into your baby's mouth. Stop feeding when your baby has had enough. Your baby has had enough when his sucking slows, he turns his head away, or he falls asleep.
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- Burp your baby as needed. You may need to burp both during and after a feeding.
- Throw away leftover formula if your baby does not finish the bottle within 2 hours. Do not refrigerate and reuse re-heated formula. Bacteria from your baby's mouth can get into the formula and make your baby sick if he drinks it later.
- Rinse the bottle and nipple right after every feeding.

Special Considerations

What type of water should I use to prepare formula?

- It is safe to use tap water, tested well water and store-bought bottled water to prepare formula.
- Well water may have high levels of minerals or bacteria. If you use well water to prepare formula, have it tested at least twice a year.
- All types of water must be sterilized. Water may contain harmful bacteria. Prepare formula with water that has been brought to a rolling boil for at least 2 minutes. See the instructions above for more information.
- Boiled water can be stored in a tightly closed sterilized container for 2-3 days in the refrigerator or 24 hours at room temperature.
- Use only water from the cold water tap. Water from the hot water tap may contain more lead and other minerals. Run the cold water tap for 2 minutes every morning to flush these minerals away.
- Do not use carbonated water or mineral water to prepare formula.
- Do not use softened water. It may be too high in salt.

How should I store the can of powdered formula?

- Cover the can of powder with its plastic lid. Store in a cool, dark place. Use within 1 month.
- Do not store formula in the freezer. Freezing changes the fat in infant formula.

What types of bottles should I choose?

- Use bottles that do not contain bisphenol A (BPA). BPA is a chemical used to make some types of plastic. This chemical may be harmful to babies and young children.
- Use bottles that are labeled BPA-free or use glass bottles. If you have bottles that have BPA, do not put very hot or boiling water in them.

What should I do if my baby is having problems with the formula?

- Talk to your baby's health care professional if you feel that your baby is having problems with the formula you are using.



Additional Resources

- For more information on preparing and handling powdered infant formula see Health Canada's web site <http://www.hc-sc.gc.ca/fn-an/nutrition/infant-nourisson/pif-ppn-recommandations-eng.php>
- For more information on Bisphenol A see the Government of Canada's web site www.chemicalsubstanceschimiques.gc.ca/fact-fait/bisphenol-a-eng.php
- EatRight Ontario handouts:
 - How to Prepare and Feed Liquid Concentrate Infant Formula www.onpen.ca/Docviewer.asp?id=8897
 - How to Prepare and Feed Ready-to-Feed Infant Formula www.onpen.ca/Docviewer.asp?id=8899

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Notes

Distributed by:

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- Call and speak to a Registered Dietitian, toll-free in Ontario at 1-877-510-510-2, 9 am to 5 pm ET Monday to Friday; Evening hours Tuesday and Thursday to 9 pm ET.