



Safe Bottle Preparation

What equipment is required for bottle feeding either expressed breast milk or infant formula?

- 4–6 feeding bottles with caps.
- 4–6 teats.
- Teats are available in a variety of shapes and flows – it is important to advise a care giver about the most appropriate one for their baby, or alternatively suggest they speak to their pharmacist.
Teats condition should be checked regularly. Teats will wear over time and may need replacing, particularly if a baby has teeth and bites. Discard any teats with cracked collars.
- Bottle brush for cleaning bottles.
- Sterilising equipment – this depends on the sterilising method chosen e.g. either by boiling, using a sterilising solution or microwave sterilising.

If bottle feeding expressed breast milk

- A breast pump to assist in expressing breast milk may be used. When choosing feeding equipment ensure all parts of any equipment used to assist in expressing milk can be effectively cleaned. Always follow the manufacturer's care and cleaning instructions.
- Breast milk bags – sterile bags for storing breast milk in fridge or freezer.

If bottle feeding formula

- A container or formula dispenser to safely carry formula powder for travelling.
- An insulated carry-bag to carry cool or warm, previously boiled water.

Teats will wear over time and may need replacing.

What are the different methods of sterilising equipment?

There are a number of safe ways to sterilise infant feeding equipment. The bottles, teats and collars should always be cleaned first to ensure no traces of milk or milk residue remain.

Steam: Electric steamers sterilise bottles in 8–12 minutes. They leave no unpleasant smell or taste but are not suitable for all equipment (i.e. breast pumps). It is important to ensure the openings of the bottles and teats are facing downwards in the steriliser and that the manufacturer's instructions are followed.

Microwave: Steam sterilising units create steam in the microwave which sterilises bottles and teats in 8–10 minutes. It is important to follow the manufacturer's instructions, especially concerning the correct amount of water to use. This method is not suitable for glass bottles, as glass retains heat and can become extremely hot in the time it takes to sterilise. Teats should be placed upright not laid flat, as this allows the steam to circulate to all areas of the teat.



Boiling: To sterilise a bottle by boiling, completely submerge all the feeding equipment in boiling water for 5 minutes. The water should cool before taking the equipment out and then shake off excess water.

Coldwater: Using an approved sterilisation tablet (prepare the sterilising solution according to the manufacturer's instruction) takes about 30 minutes and is highly effective: it can touch the skin with no ill-effects. The solution should be made up in a large glass or plastic container. It is important that the bottles and teats are fully submerged in the container (no air gaps). The bottles can stay sterilised in the water for up to 24 hours.

How do you store expressed breast milk safely?

Expressed breast milk can be stored in the refrigerator or freezer. Once thawed or heated any unused milk must be thrown out.

Guidelines for storing breast milk for home use – New Zealand:¹

STORAGE CONDITIONS	STORAGE TIME	COMMENTS
Room temperature (<26°C)	4 hours	Cover containers and keep as cool as possible (e.g. surround the closed container with a cool towel to help keep the milk cooler)
Refrigeration (2–4°C)	48 hours	Store milk in the back of the main body of the refrigerator
Frozen <ul style="list-style-type: none"> • Freezer box in refrigerator • Separate door fridge/ freezer • Separate deep freezer 	2 weeks 3–6 months 6–12 months	Store milk towards the back of the freezer, where the temperature is most constant

Guidelines for storing breast milk for home use – Australia:²

BREAST MILK STATUS	STORAGE AT ROOM TEMPERATURE (26°C OR LOWER)	STORAGE IN REFRIGERATOR (5°C OR LOWER)	STORAGE IN FREEZER
Freshly expressed into sterile container	6–8 hours If refrigeration is available store milk there	No more than 72 hours Store at back, where it is coldest	2 weeks in freezer compartment inside refrigerator (–15°C) 3 months in freezer section of refrigerator with separate door (–18°C) 6–12 months in deep freeze (–20°C)*
Previously frozen (thawed)	4 hours or less – that is, the next feeding	24 hours	Do not refreeze
Thawed outside refrigerator in warm water	For completion of feeding	4 hours or until next feeding	Do not refreeze
Infant has begun feeding.	Only for completion of feeding. Discard after feed.	Discard	Discard

* Chest or upright manual defrost deep freezer that is opened infrequently and maintains ideal temperature

What are the steps to safely prepare infant formula?

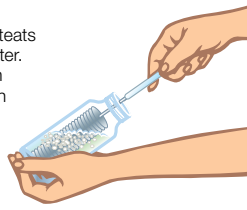
1

Wash hands thoroughly and dry them well before preparing formula.



2

Wash bottles and teats in warm soapy water. Use a bottle-brush to thoroughly clean bottles. Rinse bottles and teats thoroughly.



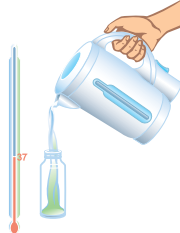
3

Sterilise bottles, teats and utensils by boiling for 5 minutes, or using an approved sterilising method.



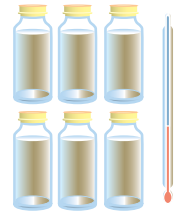
4

Boil fresh drinking water and allow to cool. Measure required volume of boiled, cooled water (cooled to at least 37°C or body temperature) into the feeding bottle prior to adding formula powder.



5

Save time by measuring a day's supply of boiled water into sterilised bottles; cover immediately. Store bottles of boiled water in the refrigerator for up to 24 hours. When required for feeding, simply reheat water to body temperature (stand bottle in a jug of hot water), add formula, mix, then feed immediately.



6

Measuring infant formula safely: Fill the scoop lightly then level the top using the levelling lip on the can, or with a sterilised knife. Always use the scoop provided in the can. DO NOT tap the scoop before levelling. DO NOT compact powder by pushing extra into the scoop, or by dragging the scoop up the side of the can.



7

Add required number of scoops to the bottle of water (body temperature), e.g. 1 scoop to every 50mL water. Always add formula powder to water, not the other way around. Always read the instructions to check the correct amount of water and powder as this may vary between formulae.



8

Place cap on bottle and shake until powder has dissolved.



9

Before feeding check temperature is correct (body temperature) by shaking a few drops of formula onto your wrist.



Feed immediately. Discard any left over milk.

To safely prepare a bottle of expressed breast milk please follow points 1–3. Heat as appropriate and refer to point 9 before feeding.

How do you thaw and warm expressed breast milk safely?

- Frozen breast milk can be thawed in the refrigerator or alternatively, placed into a bowl of warm water.³ Sterilise the cup or bottle before putting the thawed breast milk into it.
- Do not thaw or warm expressed breast milk in the microwave as this destroys the living cells in the milk.
- Thawed breast milk should be used within 24 hours and should not be refrozen. If not used it should be discarded.²

Is it safe to use a microwave oven to heat expressed breast milk or infant formula?

Microwaves are not recommended for warming an infant's bottle of expressed breast milk or infant formula as it is easy to over heat.

Microwaves can cause variations in temperatures throughout the bottle with "hotspots" and the expressed breast milk or infant formula may continue to heat after it has been removed from the microwave.²

How to use the 'Ready to drink' formulas

'Ready to drink' infant formula products are available in aseptically packed glass or plastic bottles for hospital use only or in aseptically packed tetra packs for domestic use.

If using formula in glass or tetra packaging, 'Ready to drink' formula available in a plastic bottle may also be fitted with a compatible teat and provided without decanting.

The liquid formula needs to be poured into a sterilised bottle and can be warmed in the bottle if desired, just before feeding. However once opened, 'Ready to drink' formats (glass bottle or tetra pack) may be poured into numerous sterilised bottles provided that these bottles are refrigerated below 5°C continuously and used within 24 hours.

Any unfinished formula left in the bottle after a feed must be discarded and not kept for use in a later feed.²

Is it safe to prepare feeds in advance?

Ideally only one bottle of formula should be prepared at a time. If formula needs to be prepared in advance (e.g. for a babysitter or to take to a child care centre) it must be kept refrigerated (at 5°C or below) at all time and used within 24 hours.

Alternatively, prepared sterilised bottles of boiled water may be refrigerated and used as required, first warming by standing bottle in a container of warm water and then adding formula.

Refrigerated prepared formula should be warmed by standing the bottle in a container of warm water before feeding the infant. Using a microwave to heat infant formula is not recommended as heating can occur unevenly and burn the infant's mouth. If feasible, the use of 'ready to drink' infant formula can be considered in situations where sterilisation is not possible.²

How to travel safely with infant formula?

It is much safer to prepare bottles of infant formula at the destination, rather than transporting bottles of prepared formula.

There are a number of special containers available designed to carry single serves of infant formula. It is also recommended to take one or more separate sterilised bottles of cooled boiled water at the correct volume, so the formula can be prepared at the destination. Alternatively, single-serve sachets of infant formula powder are available. Manufacturer's instructions should always be checked before use.²

Ready-made bottles of prepared formula can be a breeding ground for bacteria if the bottles have been sitting in a car or baby bag for several hours, especially on a warm day. Because of the potential for growth of harmful bacteria during transport, feeds should first be cooled to less than 5°C in a refrigerator and then transported.²

- Prepare the feed and put in the refrigerator.
- Ensure feed is cold before transporting.
- Do not remove feed from the refrigerator until immediately before transporting.
- Transport feed in a cool bag with ice packs.

- Use feeds transported in a cool bag within 2 hours, as most cool bags do not always keep foods adequately chilled.
- Re-warm at the destination (for no more than 15 minutes).
- If the destination is reached within 2 hours, feeds transported in a cool bag can be placed in a refrigerator and held for up to 24 hours from the time of preparation.

Important considerations when bottle feeding

- Check expiry date of formula.
- Hands should always be washed with soap and water and dried before expressing milk or preparing formula and bottles.
- Always use sterilised bottles and teats.
- Always use the scoop provided with the formula because different formulas may have different scoop sizes.
- Always keep formula in its original can and cover with the plastic lid to prevent contamination of the powder. Do not transfer the powder to another container because there is a high risk of contamination.
- Follow manufacturer's instructions exactly when preparing feeds and don't add more or less powder than recommended. It is important that the formula is made up correctly so the infant gets the correct amount of nutrients.
- The water should always be put in the bottle first and **then** add the powder.
- Bottles containing the sterilised water can be refrigerated for up to 24 hours.
- Prepared formula should be protected from contamination and used immediately. Make up each feed fresh as needed. Do not store prepared formula for later use.
- Once an infant has had some formula from the bottle, the feed should be used within one hour, and then any leftovers discarded.
- Do not leave prepared formula sitting at room temperature or in a warm place.
- Once a formula can has been opened, it can be safely kept for 3–4 weeks depending on the type of formula.

For enquiries please contact the Danone Nutricia Advisory Team

AUSTRALIA 1800 060 057
www.danonenutriciaprofessional.com.au

NEW ZEALAND 0800 688 742
www.danonenutricia.co.nz

A resource for Healthcare Professionals

BREAST MILK IS BEST FOR BABIES: Professional advice should be followed before using an infant formula. Introducing partial bottle feeding could negatively affect breast feeding. Good maternal nutrition is important for breast feeding and reversing a decision not to breast feed may be difficult. Infant formula should be used as directed. Proper use of an infant formula is important to the health of the infant. Social and financial implications should be considered when selecting a method of feeding.

References: 1. NZ Ministry of Health (2008) Partially Revised December 2012. (Updated food-related choking policy). Food and Nutrition Guidelines for Healthy Infants and Toddlers (Aged 0–2): A background paper (4th ed) – Wellington: Ministry of Health. Wellington, New Zealand. 2. NHMRC (2012). National Health and Medical Research Council: Infant Feeding Guidelines National Health and Medical Research Council. Canberra. 3. Ministry for Primary Industries. Warming infant formula; <http://www.foodsmart.govt.nz/information-for/babies-toddlers/warming-infant-formula/> (last accessed 17/12/2013).

NBM1803-09/09/14-ANZ. 12043.

NUTRICIA™
Expert in Early Life Nutrition