

Cronobacter

Food Act 2006

Cronobacter species are a group of non-spore forming bacteria naturally found in the environment that can survive in dry conditions. *C. sakazakii* is the main species reported to cause foodborne illness, with the development of meningitis (an inflammation of the membranes that protect the brain and spinal cord) leading to neurological disability and death, reported in infants. *C. malonaticus* has also been associated with foodborne illness.

While *Cronobacter* is generally considered a pathogen in infants and immunocompromised adults, it has also been reported as the cause of foodborne illness in healthy adults.

How does *Cronobacter* cause foodborne illness?

Cronobacter foodborne illness is generally caused by toxins that are released following ingestion of food that is contaminated with high numbers of the bacteria. However, *Cronobacter* can also cause severe bloodstream infections in those with weakened immune systems.

Cronobacter may be present in various food products due to their widespread distribution. Infections have been linked to dry foods like herbal teas, starches and powdered infant formula.

Cronobacter can live on surfaces such as benches, sinks and in water. Powdered infant formula is not a sterile product and may be contaminated during manufacture. Cross-contamination can occur once the container is opened, for example, by placing lids or scoops on contaminated surfaces. Infections have also been linked to contaminated infant feeding equipment such as bottles and breast pumps.

Cronobacter is resistant to drying but is killed or inactivated during heat processing such as pasteurisation.

Who is at risk?

Anyone can be affected by *Cronobacter*, but certain people are at greater risk of severe illness, including:

- Infants (often linked to powdered infant formula)
- pregnant women
- young children (under 5 years)
- older adults (over 60 years)
- people with weakened immune systems.

What are the symptoms of *Cronobacter* foodborne illness?

While infections have been reported in all age groups, infections in preterm infants or infants less than two months old are most likely to develop meningitis. Symptoms of *Cronobacter* infection in infants typically begin with a fever, poor feeding and low energy, and seizures may also occur.

Most infected people will experience the following symptoms within 4-24 hours after eating contaminated food:

- abdominal cramps
- diarrhoea
- nausea
- vomiting

Symptoms in older age groups are generally mild and typically subside within 48 hours.

Prevention

The most effective way of preventing *Cronobacter* foodborne illness is to prevent its growth in a food. This can be achieved by:

- cooking food thoroughly and serving it immediately or keeping it hot (60°C or hotter) until serving
- if feeding infants, carefully clean, sanitise and store feeding equipment in clean and sanitised containers, and ensure infant formula is reconstituted with hot water $\geq 70^{\circ}\text{C}$
- when cooling cooked potentially hazardous food to be stored and used later, cool the food–
 - (a) within two hours - from 60°C to 21°C; and
 - (b) within a further four hours - from 21°C to 5°C

Hint: divide large amounts of hot food into small shallow containers to allow it to cool faster
- making sure your refrigerator is 5°C or colder
- reheating cooked food quickly with a microwave or stovetop (to 60°C or above)
- washing your hands with soap and drying them before preparing or eating food and between preparing raw and ready-to-eat foods
- keeping your kitchen clean and ensuring all food contact surfaces are cleaned and sanitised before preparing food and between preparation of raw foods and ready-to-eat foods.

What to do if you suspect a case of foodborne illness

If you suspect you have foodborne illness, seek medical advice.

A stool sample may be required to confirm the presence of *Cronobacter*.

Diarrhoea can cause dehydration, so it is important to drink plenty of fluids.

If you have a concern about a food product or a food business, Queensland Health provides an online form to make a food complaint. This is available at <https://phconnect-foodcomplaints.health.qld.gov.au>

Further information

For health advice, please contact your doctor or nearest health facility, or call 13 HEALTH (13 43 25 84).

For food safety advice and further information relating to *Cronobacter* in food, contact your local Public Health Unit at www.health.qld.gov.au/system-governance/contact-us/contact/public-health-units.

The Food Pantry has advice related to food safety for food businesses and consumers at www.qld.gov.au/foodpantry.

