
Targeted Food Surveillance on *Enterobacter Sakazakii* (*Cronobacter spp.*) in Powdered Infant Formula

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Background

- *Enterobacter sakazakii* (*E. sakazakii*) (*Cronobacter spp.*) is a pathogen that generally causes disease only in people with weakened immune systems. The bacterium can cause invasive infections (e.g. sepsis or meningitis) in infant. Neonates (≤ 28 days old) and infants less than 2 months of age, in particular those that are pre-term, low-birth-weight (< 2.5 kg) and immunocompromised, are at greatest risk.
- As *E. sakazakii* (*Cronobacter spp.*) can cause rare but fatal infections in infants, it has aroused concerns in many countries.
- Despite the source of *E. sakazakii* (*Cronobacter spp.*) is not known in many cases of infant infection, increasing number of reports have suggested that powdered infant formula (PIF) is a vehicle for the infection.
- In view of this, a targeted food surveillance project conducted by the Centre for Food Safety (CFS) is continued this year to assess the situation of *E. sakazakii* (*Cronobacter spp.*) in PIF.

Types of samples

- The CFS has collected 100 samples of PIF from the local market for testing of *E. sakazakii* (*Cronobacter spp.*).
- Samples include PIF of 24 different brands.
- The sampled products are from different countries including:
 - Australia, Germany, Holland, Indonesia, Ireland, Japan, Korea, New Zealand, USA, France, Spain and Switzerland

Test results

- The results were all satisfactory. *

* According to the standard of Codex Alimentarius Commission, *E. sakazakii* (*Cronobacter spp.*) should not be detected in PIF.

Advice for caregivers

- The WHO recommends that infants should be exclusively breastfed for the first six months of life to achieve optimal growth, development and health.
- For mothers who are not breastfed, they should:
 - ❑ Be alerted that PIF is not a sterile product and can be contaminated with pathogens that can cause serious illness.
 - ❑ Reconstitute PIF with water that is no less than 70°C (water left for no more than 30 minutes after boiling) and then cool it down to a suitable temperature to feed the infant. Reconstituted milk should be consumed within 2 hours.
 - ❑ Reconstituted milk that is not for immediate consumption should be cooled soon after preparation and stored in a refrigerator at 4 degrees Celsius or below. It should be consumed within 24 hours. The refrigerated bottle feed should be re-warmed immediately before feeding for no more than 15 minutes by placing it in a container of warm water (water level below the top of the bottle) with occasional shaking or swirling during the process.
 - ❑ If breastfeeding is not feasible for infants at high risk of *E. sakazakii* (*Cronobacter spp.*) infection, caregivers are encouraged to use commercially sterile, ready-to-feed liquid formula for the infants.

Advice for manufacturers

- Controlling intrinsic contamination (i.e. contamination in PIF before opening) would help to decrease the risk for *E. sakazakii* (*Cronobacter spp.*):
 - Implement effective preventive measures as well as monitoring and environmental management programmes such as Good Manufacturing Practice (GMP), Good Hygiene Practice and Hazard Analysis & Critical Control Point (HACCP) which cover all relevant elements including the processing environment, product contact surfaces and finished product.
 - Communicate the risk reduction measures that the caregiver should follow for the safe preparation, handling and use of powdered formula on product label.