



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 23790-2023

Replacing GB 23790-2010

**National food safety standard - Good manufacturing practice
for formula foods for infants and young children**

食品安全国家标准 婴幼儿配方食品良好生产规范

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Foreword

This document was issued on 6 September 2023 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 6 September 2024.

It is a GB standard without the /T suffix: compliance is mandatory in China.

It replaces GB 23790-2010, which is superseded.

This standard replaces GB 23790-2010 National food safety standard - Good manufacturing practice for powdered formulae for infants and young children.

Compared with GB 23790-2010, the main changes in this standard are as follows.

- The terms and definitions of "cleaning work area", "quasi-cleaning work area" and "commonly work area" are deleted;
- The dynamic standard control requirements for the cleaning work area of production of powdered formula foods for infants and young children are

changed, and the dynamic standard control requirements for the cleaning work area of production of liquid formula foods for infants and young children are added;

- "Enterobacter sakazakii" is changed to "Cronobacter spp. (enterobacter sakazakii)";
- The technical requirements for sterilization equipment are added;
- The technical requirements for production specifications of liquid formula foods for infants and young children are added;
- The content that liquid formula foods for infants and young children shall be tested for commercial sterility in accordance with GB 4789.26 is added;
- The training requirements for sterilization operators, liquid product filling and sealing operators, and cleaning and disinfection personnel are added.

National food safety standard - Good manufacturing practice for formulae for infants and young children

1 Scope

GB 23790-2023 governs how a plant making formula foods for infants and young children is sited, built, equipped and run, from the choice of ground and the surrounding environment through the layout of buildings and workshops to the facilities and equipment inside them. It carries the process definitions that separate the ways such products are made, and the clause on food safety control during production is the longest in the document, with its own requirements for the powdered infant and young child formula lines. Around that sit health management with its cleaning and disinfection regime, control of raw materials, food additives and food-related products, inspection, storage and transport, product recall, training, the management system and the people who run it, and the records and documents that make a batch traceable. The detail exists because a baby fed on formula has no other diet: a contaminant picked up in a drying tower or a filling room reaches a consumer with no reserve, and a recall that cannot say which batches went where becomes a recall of everything. As a mandatory national standard it is required reading for producers supplying the Chinese market, for their auditors, and for importers qualifying a supplier.

This standard specifies the basic requirements and management guidelines for sites, facilities, and personnel in the production process of formula foods for infants and

young children such as raw material procurement, processing, packaging, storage, and transportation.

This standard applies to the production of formula foods for infants and young children with milk and/or soybeans and their processed products as the main protein source.

2 Terms and definitions

The terms and definitions defined in GB 14881, GB 10765, GB 10766, and GB 10767 apply to this standard.

2.1 Wet (production) process

The production process of processing the ingredients of powdered infant and young child formula foods in a liquid state into the final product. This process usually includes batching, heat treatment, concentration, drying, packaging (filling), and other processes.

2.2 Dry (production) process

The production process of physically mixing the ingredients of powdered infant and young child formula foods in a solid state to produce the final product. This process usually includes batching, mixing (including premixing), packaging (filling), and other processes.

2.4 Liquid (production) process

The production process of processing the ingredients of infant and young child formula food in a liquid state into the final liquid product. This process usually includes batching, homogenization, sterilization, filling, sealing, and other processes (also includes sterilization process after filling and sealing).

3 Site selection and factory environment

3.1 It shall comply with the relevant provisions of GB 14881.

4 Factory buildings and workshops

4.1 Basic requirements

They shall comply with the relevant provisions of GB 14881.

4.2 Design and layout

4.2.1 Factory buildings and workshops shall be reasonably designed, planned, and constructed to be compatible with facilities and equipment to prevent microbial contamination and growth, especially contamination by *Salmonella* and *Cronobacter* spp. (*Enterobacter sakazakii*). The following shall be considered in the design.

4.2.2 Reasonable zoning shall be carried out according to the product characteristics, production technology, and the requirements for cleanliness of the production process, combined with the actual conditions of the factory building and workshop. Generally, the factory building and workshop are divided into common work areas, quasi-cleaning work areas, and cleaning work areas.

4.2.3 Effective separation shall be set up between working areas with different cleanliness levels

4.2.4 Reasonable and effective control measures shall be taken when entering and exiting the cleaning work area to avoid or reduce microbial and other contamination. For personnel, raw materials, packaging materials, waste, equipment, etc.

4.2.5 The dynamic control requirements for the cleaning work area in the production of powdered infant and young child formula foods shall comply with the provisions in Table 1.

4.2.6 The cleaning work area for powdered infant and young child formula foods shall be kept dry. Water supply facilities and systems shall avoid passing through the upper space of the main production work area. If this cannot be avoided, protective measures shall be taken to prevent pollution.

4.2.7 Factory buildings, workshops, and warehouses shall have facilities to prevent pest intrusion.

5 Facilities and equipment

5.1 Basic requirements

They shall comply with the relevant provisions of GB 14881.

5.2 Drainage facilities

5.3 Personal hygiene facilities