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

GB/T 21672-2024

Replacing GB/T 21672-2014

Quick frozen coated shrimp or prawn

速冻裹衣虾

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1 Scope

The document sets requirements for the raw and auxiliary materials, the processing water, the sensory characteristics, the physical and chemical indicators and the net content of quick frozen coated shrimp, describes the corresponding test methods, and lays down inspection rules and rules for marking, packaging, transport and storage.

It applies to the production, processing and sale of non ready-to-eat products made from fresh or quick frozen shrimp meat, fantail shrimp, butterfly shrimp, shrimp balls and the like by battering and/or breading (or dusting with flour), with or without pre-frying, followed by quick freezing.

2 Normative references

The documents cited are GB/T 191 (packaging pictorial marking for storage and transport), GB 5749 (drinking water hygiene), GB/T 30889 (frozen shrimp), GB/T 30891 (sampling of aquatic products), GB/T 36193 (terminology for aquatic product processing), GB/T 40963 (frozen shrimp meat), JJF 1070 (rules for the metrological testing of the net content of prepackaged goods) and SC/T 3035 (general rules for the packaging and labelling of aquatic products).

The terms and definitions of GB/T 36193 apply to the document.

4 Requirements

4.1 Raw and auxiliary materials. The raw material shall be fresh or quick frozen shrimp or shrimp meat; frozen shrimp shall meet GB/T 30889 and frozen shrimp meat shall meet GB/T 40963. The breading or flour used for the coating shall meet the relevant product

standard, as shall the frying oil.

4.2 Processing water shall meet GB 5749.

4.3 Sensory requirements, given in Table 1. Colour: the colour proper to the product, essentially uniform within a batch. Appearance: the shape of the product essentially intact, the pieces essentially uniform in size, the coating fairly evenly attached. Foreign matter: no foreign matter visible to normal sight. Quality after frying: the taste and smell proper to the product, the shrimp meat fairly springy, crisp outside and tender inside, savoury and palatable.

4.4 Physical and chemical indicators, given in Table 2: shrimp meat content not less than 40 %; core temperature of the frozen product not higher than -18 °C.

4.5 Net content. The net content of prepackaged products shall meet JJF 1070.

5 Test methods

5.1 Sensory testing. For the routine test, about 200 g of frozen sample is thawed at 0 °C to 4 °C until its core temperature reaches -5 °C to -2 °C, then placed on a white enamel tray or a stainless steel bench in a well-lit place free of off-odours, where colour, appearance and foreign matter are assessed. For the test after frying, about 200 g of frozen sample is immersed in edible oil preheated to 180 °C to 200 °C and fried until the core temperature of the sample reaches 65 °C to 70 °C; the sample is then lifted out, drained for 15 s and blotted on kitchen paper to take up excess oil, and the quality after frying is assessed.

5.2 Physical and chemical testing. Shrimp meat content is determined as in Annex A. For the core temperature of the frozen product, a pre-cooled thermometer or probe is inserted into the centre of the pack and the reading is recorded once it is steady.

5.3 Net content is determined as in JJF 1070.

6 Inspection rules

6.1 Batching and sampling. Products made on the same day or in the same shift under essentially the same raw material and process conditions form one batch, and sampling is by batch number. The sampling method follows GB/T 30891.

6.2 Types of inspection. Every batch undergoes delivery inspection, covering the sensory characteristics, the core temperature of the frozen product and the net content; a certificate of conformity is issued when the batch passes, and the product enters store or leaves the works against that certificate. Type inspection covers every item specified in the document and is carried out when production restarts after a break of more than six months; when the origin of the raw material changes or the process is altered in a way that may affect product quality; when the state supervisory authority calls for it; when delivery inspection differs markedly from the last type inspection; at least twice a year as a periodic check during

normal production; and when quality is disputed and arbitration requires it.

6.3 Decision rules. The batch conforms to the document when every item passes. Where an item fails, a double quantity of sample shall be drawn again from the same batch and retested, and the retest governs; if an item still fails, the batch does not conform to the document.

7 Marking, packaging, transport and storage

7.1 Marking shall meet SC/T 3035, and the label shall also state the shrimp meat content and the cooking instructions. Marking on transport packaging shall meet GB/T 191, and products under a traceability scheme shall carry a traceability mark.

7.2 Packaging shall meet SC/T 3035; products shall be packed by the same kind and the same grade and shall not be mixed; products in the case shall be neatly arranged and accompanied by a certificate of conformity; and the packaging shall be sound, moisture-proof and not easily damaged.

7.3 Transport. Vehicles shall be clean and free of off-odours and shall not have carried corrosive or otherwise harmful substances; the product shall be protected during transport from pests, from contamination by harmful substances and from other damage, and shall not be carried with strongly smelling goods; the temperature inside the body shall not be higher than -15 °C during transport.

7.4 Storage. Products shall be stored in a clean cold store free of off-odours and protected from pests, from contamination by harmful substances and from other damage. Different kinds, grades and batches shall be stacked separately and clearly marked, raised on pallets not less than 10 cm from the floor and not less than 30 cm from the walls, the stacking height being such that the cartons are not deformed under load. The cold store temperature shall not be higher than -18 °C and the fluctuation shall be held within ± 2 °C.

A Annex A (normative) Determination of shrimp meat content

A.1 Principle. Preheated water is used to break down the bonding of the outer coating so that the whole of the coating can be removed from the surface of the frozen shrimp meat.

A.2 Apparatus. A balance reading to 0.1 g; a thermostatic water bath with an immersion thermometer, accurate to ± 0.1 °C; a soft rubber knife or scraper; and a rubber-tipped glass stirring rod.

A.3 Procedure. The frozen test sample is weighed and its mass recorded. It is immersed in a water bath at 17 °C to 49 °C until the coating softens and can be scraped off the frozen shrimp meat easily. The sample is taken out of the bath, blotted quickly with kitchen paper to remove excess water, and the coating is scraped from the shrimp meat with the soft rubber knife or a blunt scraper. Where the coating is hard to remove, the sample is

immersed in a water bath at 17 °C to 30 °C until the coating softens, the immersion being repeated if necessary until the whole coating has been removed. The water temperature is normally set from the size of the sample and the thickness of the coating, the correct immersion time being the shortest time that lets the outer coating be scraped off easily while the shrimp meat at the centre stays frozen. The shrimp meat is weighed again after the coating has been removed and its mass recorded.

A.4 Calculation. The shrimp meat content, as a percentage, is calculated from formula (A.1). Its symbols are: the shrimp meat content, in per cent; the mass of the test sample before the coating is removed, in grams; and the mass of the test sample after the coating is removed, in grams. The result is expressed as the mean of three parallel test samples, to one decimal place.