

SS 668 : Part 4 : 2020
(ICS 67.120.30)

SINGAPORE STANDARD

Cold chain management of chilled and frozen foods

– Part 4 : Code of practice for fish

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The organisations in which the experts of the Working Group are involved are:

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BSI Group Singapore Pte Ltd
CMM Marketing Management Pte Ltd
Enterprise Singapore
GS1 Singapore Limited
Jurong Cold Store Pte Ltd
Mandai Link Logistics Pte Ltd
Malaysia Dairy Industries Pte Ltd
MyKenzen Nutrition Services Pte Ltd
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Occasions Catering Pte Ltd
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Singapore Food Agency
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Foreword

This Singapore Standard was prepared by the Working Group on Cold Chain Management of Chilled and Frozen Foods – Code of Practice for Fish set up by the Technical Committee on Food Processing, Distribution and Services under the purview of FSC.

The review of the following standards resulted in the development of the SS 668 series of standards on cold chain management of chilled and frozen foods:

- SS 585 : 2013 Cold chain management of vegetables;
- SS 552 : 2016 Code of practice for cold chain management of chilled pork;
- SS 621 : 2016 Code of practice for cold chain management of milk and dairy products;
- TR 49 : 2016 Cold chain management of frozen fish and seafood.

The SS 668 series comprises the following parts under the general title of “Cold chain management of chilled and frozen foods”:

- Part 1 : General requirements
- Part 2 : Code of practice for meat
- Part 3 : Code of practice for vegetables and fruits
- Part 4 : Code of practice for fish
- Part 5 : Code of practice for chilled table eggs

NOTE – Parts 2 to 5 are intended to be used in conjunction with Part 1.

The maintenance of the cold chain is integral to uphold the safety of consumers and the protection of public health while preserving the nutritional and sensory qualities of perishable fish. The cold chain extends their shelf life by slowing down microbial spoilage and/or biological contamination. It also reduces unnecessary food wastage along the chain.

The introduction of new and modern technologies in food production at the farm, processing and packaging have revolutionised the whole concept of chilled and frozen food preparation, storage and transportation. These processes have a significant impact on consumers’ perception and expectations of food safety and quality. Proper management of every link of the cold chain constitutes an integral part in the production, storage and transportation of wholesome and safe chilled and frozen foods to the consumers.

SS 668 : Part 4 is developed to meet the increasing demand by consumers for fish, in terms of safety, quality and availability.

It is presupposed that in the course of their work, users will comply with all relevant regulatory and statutory requirements. Some examples of relevant regulations and acts are listed in the Bibliography. The Singapore Standards Council and Enterprise Singapore will not be responsible for identifying all of such legal obligations.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

NOTE

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions. Where SSs are deemed to be stable, i.e. no foreseeable changes in them, they will be classified as "Mature Standards". Mature Standards will not be subject to further review, unless there are requests to review such standards.*
2. *An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore and the Singapore Standards Council shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR. Although care has been taken to draft this standard, users are also advised to ensure that they apply the information after due diligence.*
3. *Compliance with a SS or TR does not exempt users from any legal obligations.*

Cold chain management of chilled and frozen foods – Part 4 : Code of practice for fish

0 Introduction

Singapore imports fish from around the world. Cold chain management is crucial in the fish industry. Fish are highly perishable as they are prone to quality (i.e. freshness and wholesomeness) deterioration. Maintaining fish at the correct temperature from catching until it reaches the consumer will ensure optimum freshness and quality. Fish starts to spoil from the time it is caught and this spoilage due to enzyme activity, bacterial growth and oxidation continues throughout its shelf life. All of these activities can be controlled to a great extent by reducing the temperature to keep the fish fresh. Hence, cold chain management is critical to preserve the safety and quality of fish products. Careful handling and proper storage are needed at all points in the supply chain, from the fishing boat or fish farm to the points of retail, wholesale or to the processing plant and until these fish products reach the consumers.

A cold chain is one of the most critical requirements to ensure the safety and quality of fish. It implies a temperature-controlled supply chain to maintain the ideal storage conditions for perishable and temperature-sensitive products, from the point of origin to the point they reach the consumers. Time and temperature play an important role in the cold chain management. Low temperature conditions can slow down the spoilage of fish during handling, storage and transportation, thus ensuring high standards of safety and quality for consumers.

1 Scope

This code specifies cold chain requirements for an organisation carrying out post-harvest preparation and related activities. It aims to assist the organisation to adopt the appropriate guidelines to demonstrate its ability to consistently meet cold chain requirements. The code does not define the manufacturing requirements for processes or repeat the general technical requirements of a cold chain system listed in SS 668 : Part 1.

This code provides specific cold chain requirements for fish covering post-harvest handling, icing/chilling, cutting, filleting, quick-freezing, glazing, etc. before packing, cold storage, transportation and distribution to ensure their safety, quality and wholesomeness, and safeguard public health.

The objectives of this code are to establish and provide benchmarks for the management of temperature profiles in the cold chain for raw and minimally processed chilled and frozen fish products including whole, fillet, cuts, etc.

2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

SS 668 : Part 1 Cold chain management of chilled and frozen foods – Part 1: General requirements