



I. Microbiological Requirements of Fishery Products Based on Countries

KOREA

Product	TVC CFU/g	Coliforms MPN/g	<i>E. coli</i> MPN/g
Canned/Bottled Foods and Retort Foods (Long shelf-life food)	n = 5 c = 0 m = 0	-	-
Frozen foods for consumption without heating	n = 5 c = 2 m = 1 x 10 <sup>5</sup> M = 5 x 10 <sup>5</sup>	n = 5 c = 2 m = 10 M = 100 (Pasteurized products)	n = 5 c = 2 m = 0 M = 10 (Except for pasteurized products)
Frozen foods for consumption after heating	n = 5 c = 2 m = 1 x 10 <sup>6</sup> M = 5 x 10 <sup>6</sup>	n = 5 c = 2 m = 10 M = 100 (Pasteurized products)	n = 5 c = 2 m = 0 M = 10 (Except for pasteurized products)

หมายเหตุ : 1. สินค้าสัตว์น้ำพร้อมบริโภค ต้องตรวจไม่พบ (n = 5 c = 0 m = 0/25 g) *Salmonella* spp. , *L. monocytogenes* และ *V. parahaemolyticus*



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Product	TVC CFU/g	<i>E. coli</i> MPN / g	<i>Vibrio cholerae</i> in 25 g	<i>Vibrio vulnificus</i> in 25 g	<i>Vibrio</i> <i>parahaemolyticus</i>	<i>S. aureus</i> MPN / g
Fishery products which are subjected to sanitary treatment, such as removing inedible parts (scales, gills and intestines, etc.) and cleaning, for direct consumption without further cooking	n = 5 c = 2 m = 1 x 10 <sup>5</sup> M = 5 x 10 <sup>5</sup>	n = 5 c = 2 m = 0 M = 10	n = 5 c = 0 m = 0	n = 5 c = 0 m = 0	100 MPN / g	100

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Product	TVC CFU/g	Coliforms MPN/g	<i>E. coli</i> MPN/g	<i>Bacillus cereus</i> CFU/g	<i>Clostridium perfringens</i> CFU/g
Seasoning Food ได้แก่ - Sauce <sup>1</sup> เช่น น้ำเนม - Curry and Curry powder	n = 5 c = 0 m = 0 (Sterilized products)	n = 5 c = 1 m = 0 M = 10 (Pasteurized products)	n = 5 c = 1 m = 0 M = 10 (Non-pasteurized products for direct consumption) n = 5 c = 2 m = 0 M = 10 (Composite seasoning)	10,000 (Sterilized products shell be negative)	n = 5 c = 2 m = 100 M = 1,000 (Sterilized products shell be n = 5 c = 0 m = 0/25 g)
Salted and Fermented Seafood Products	-	-	n = 5 c = 1 m = 0 M = 10	10,000 (Sterilized products shell be negative)	n = 5 c = 2 m = 100 M = 1,000 (Sterilized products shell be n = 5 c = 0 m = 0/25 g)
Fish sauce and Seasoned fish sauce		n = 5 c = 1 m = 0 M = 10		10,000 (Sterilized products shell be negative)	n = 5 c = 2 m = 100 M = 1,000 (Sterilized products shell be n = 5 c = 0 m = 0/25 g)

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Pickled Food Products <sup>2</sup>	n = 5 c = 0 m = 0 (Sterilized products)	n = 5 c = 1 m = 0 M = 10 (Pasteurized products)	n = 5 c = 1 m = 0 M = 10 (Non-pasteurized products)	10,000 (Sterilized products shell be negative)	n = 5 c = 2 m = 100 M = 1,000 (Sterilized products shell be n = 5 c = 0 m = 0/25 g)
Boiled Food <sup>3</sup> ได้แก่ กิมจิที่มีส่วนผสมของ สัตว์น้ำ	n = 5 c = 0 m = 0 (Sterilized products)	n = 5 c = 1 m = 0 M = 10 (Pasteurized products)		10,000 (Sterilized products shell be negative)	n = 5 c = 2 m = 100 M = 1,000 (Sterilized products shell be n = 5 c = 0 m = 0/25 g)

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Processed Fish Meat Products <sup>4</sup> เช่น Fish flesh, Surimi, Semi-finished fish meat product, Fish paste and Fish sausage เป็นต้น	$n = 5 \quad c = 2$ $m = 1 \times 10^5$ $M = 5 \times 10^5$ (Direct consumption)	$n = 5 \quad c = 1$ $m = 0$ $M = 10$ (Pasteurized products)	$n = 5 \quad c = 2$ $m = 0$ $M = 10$ (Direct consumption)
	$n = 5 \quad c = 2$ $m = 1 \times 10^6$ $M = 5 \times 10^6$ (Consumption after heating)		
	$n = 5 \quad c = 0$ $m = 0$ (Sterilized products)		

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Dried fish/Shellfish fillet products (include seasoned dried fish/Shellfish fillet)	-	-	n = 5 c = 2 m = 0 M = 10	n = 5 c = 1 m = 10 M = 100 (Seasoned dried fish/Shellfish fillet) n = 5 c = 0 m = 0 (Sterilized products shell be)
Other Processed Fishery Products	n = 5 c = 0 m = 0 (Sterilized products)	n = 5 c = 1 m = 0 M = 10 (Pasteurized products)	n = 5 c = 1 m = 0 M = 10 (Non-pasteurized products for direct consumption)	-
Processed Extract Product <sup>5</sup>	n = 5 c = 1 m = 100 M = 1,000 (Only to liquid products for direct consumption)	n = 5 c = 1 m = 0 M = 10 (Pasteurized products or liquid products for direct consumption)	n = 5 c = 1 m = 0 M = 10 ( Except for pasteurized products or liquid products for direct consumption)	-
Uncooked raw oysters	-	-	n = 5 c = 1 m = 230 M = 700 MPN/100 g	-

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Product		TVC CFU/g	<i>E. coli</i> MPN/g	<i>C. perfringens</i> CFU/g	<i>B. cereus</i> CFU/g	<i>S. aureus</i> MPN/g	<i>V. parahaemolyticus</i> MPN/g
Prepared Meals (Direct consumption or to be consumed after simple cooking process)	Raw food product <sup>6</sup> เช่น โจ๊กหรือบะหมี่กึ่งสำเร็จรูป ที่มีส่วนผสมสัตว์น้ำ เป็นต้น		n = 5 c = 2 m = 0 M = 10	100	1,000	-	-
	Ready-to-Eat/ Convenience Foods <sup>7</sup> เช่น Lunch boxes, Dried seaweed, Hamburgers เป็นต้น	n = 5 c = 0 m = 0 (Sterilized products)	n = 5 c = 1 m = 0 M = 10	100	1,000	100	100

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Prepared Meals (Direct consumption or to be consumed after simple cooking process)	Ready-to-cook food เช่น Guk (Korean soup), Tang (Korean broth), soup เป็นต้น	n = 5 c = 0 m = 0 (Sterilized products)	n = 5 c = 1 m = 0 M = 10 (Pasteurized products)	n = 5 c = 1 m = 0 M = 10 ( Except for pasteurized and Sterilized products)	100	n = 5 c = 0 m = 0/25 g
	Dumplings	-	n = 5 c = 1 m = 0 M = 10 (Pasteurized dumpling skin)	-	-	-

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คำจำกัดความ : <sup>1</sup> **Sauce** : Produced by adding spices, soy sauces and pastes, saccharides, edible salt or vinegars, etc., to ingredients of animal/plant origin and mixing them together; or by fermenting/aging

<sup>2</sup> **Pickled food products** : Pickled foods and Sugar-preserved foods manufactured by preserving vegetables, fruits, spices, wild plants, fishery products, etc., in edible salt, vinegar, saccharide or soy sauces and pastes, etc., and processing them with or without the addition of other foods. However, those for which separate Standards and Specifications have been established are excluded

<sup>3</sup> **Boiled foods** : Foods made primarily from ingredients of animal/plant origin by heating and boiling or roasting them after adding edible salt, soy sauces and pastes and saccharides, etc.; or by seasoning and processing such boiled ingredients.

<sup>4</sup> **Processed fish products** : Products manufactured/processed by adding food or food additives to fish meat used as a main ingredient; and includes Fish flesh, Surimi, Semi-finished fish meat product, Fish paste and Fish sausage, etc

<sup>5</sup> **Processed Extract Product** : Products made by extracting edible animal materials as a main ingredient using water; or by adding food or food additives to such extract and processing it.

<sup>6</sup> **Raw food product** : Products made by processing, such as drying, etc., ingredients of animal/plant origin as a main ingredient, and intended to be consumed with or without mixing with water.

<sup>7</sup> **Ready-to-Eat/Convenience Foods** : Ready-to-eat food, Fresh-cut product and Ready-to-cook foods that are manufactured/processed/packed in such a way that consumers can directly consume without further cooking or after simple cooking process.

<sup>8</sup> **Salted and fermented seafood** : Product by adding salt (for sikhae (fermented fishes with grains), by adding salt and grains, etc.) to the whole or part of fishes, crustaceans, mollusks or echinoderms, etc., (which shall account for not less than 60% based on a fresh weight) and fermenting and aging them.



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**Pasteurized food products** shall be heat-pasteurized for 30 minutes keeping their center temperature at 63 °C or above, or using alternative methods with equal or better effect; and packaged or handled in a sanitary manner to prevent contamination. In addition,

**Sterilized food products** shall be placed in an airtight container/package, and sterilized for 4 minutes or longer, keeping their center temperature at 120 °C or above, or using alternative sterilization with equal or better effect.

อ้างอิง : Food Code. 2021. Ministry of Food and Drug Safety (Korea).

[https://www.mfds.go.kr/eng/brd/m\\_15/view.do?seq=69982&srchFr=&srchTo=&srchWord=&srchTp=&itm\\_seq\\_1=0&itm\\_seq\\_2=0&multi\\_itm\\_seq=0&company\\_cd=&company\\_nm=&page=3](https://www.mfds.go.kr/eng/brd/m_15/view.do?seq=69982&srchFr=&srchTo=&srchWord=&srchTp=&itm_seq_1=0&itm_seq_2=0&multi_itm_seq=0&company_cd=&company_nm=&page=3)