

Technical report on milk powder trade into South Korea

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LAN Seoul

The Netherlands holds a strong position in the South Korean milk powder market, particularly in skim (and whole) milk powder preparations, supported by its high-quality supply chain and advanced blending facilities. Milk powder imports into South Korea are expected to increase as domestic raw milk prices remain high. Whey protein represents the most promising segment for Dutch exporters, driven by the growing demand for high-quality protein products in the South Korean market. Meanwhile, Dutch exporters are encouraged to examine the underlying factors behind the Netherlands' declining market share in the cocoa preparation segment.

1. Introduction

The Netherlands is the largest exporter of milk powder to South Korea. Milk powder has consistently ranked as the fourth or fifth largest Dutch export to South Korea across all product categories, including non-agricultural goods.

South Korea presents a unique opportunity for foreign dairy exporters due to its exceptionally high raw milk prices, which are more than twice the global average. Despite this cost advantage, foreign finished dairy products such as milk and yogurt have faced significant barriers to market entry, including high import tariffs and political resistance from domestic farmers, although the market has recently begun to open to foreign products.

In contrast, milk powder has faced relatively few trade restrictions. It is widely imported for use as an ingredient in the domestic production of dairy, confectionery, and bakery goods. As a result, imported milk powder has played a crucial role in lowering production costs for South Korea's food industry.

Milk powder products imported into South Korea range from Skim Milk Powder (SMP) and Whole Milk Powder (WMP) to Skim Milk Powder Preparation (SMPP),

Whole Milk Powder Preparation (WMPP), Cocoa Preparation (CP), Whey Powder, Whey Protein, Casein, and Lactose.

Table 1. Definitions by Milk Powder Product Type

Product type	Definition	Korean HS code ¹	Use
SMP	Skim Milk Powder	0402101010	Flavored milk, Yoghurt, Ice cream and Infant formula
WMP	Whole Milk Powder	0402211000	
S(W)MPP1	S(W)MP + Other milk powder products (Whey powder or whey protein)	SMPP: 0404901000 WMPP: 0404902000	Flavored milk, Yogurt and Ice cream,
S(W)MPP2	S(W)MP + Other powder products (malt, flour, sugar or starch)	SMPP: 1901902010 WMPP: 1901902020	Ice cream
CP	SMP + Cocoa mass	1806209010	Chocolate, Ice cream and Choco snack/biscuit
Whey Powder	Whey protein <80%	040410	Infant formula, Flavored milk and Beverage,
Whey Protein	Whey protein >80%	3502200000	Yoghurt and Infant formula
Casein	Casein and Caseinate	3501	Coffee creamer and Artificial milk powder
Lactose	Lactose	1702111000 1702191000	Dairy products and Medicine

2. Overview of Milk Powder Products

1) Import Duties and Tariff Structure

South Korea imposes very high base tariffs on milk powder imports: 176% for Skim Milk Powder (SMP) and 573% for Whole Milk Powder (WMP). Due to these prohibitive rates, imports of SMP and WMP are typically conducted within the in-quota volumes allocated under WTO commitments or Free Trade Agreements (FTAs) to benefit from reduced or exempted duties.

In response to these tariff barriers, Dutch exporters have traditionally focused on Skim/Whole Milk Powder Preparations (SMPP/WMPP) rather than raw SMP or

¹ South Korea uses a 10-digit HS code, which differs slightly from the EU's 8-digit HS code. The first four digits are consistent between the South Korean and EU codes.

WMP. These preparations are not subject to import quotas, and the Netherlands enjoys a competitive advantage in milk powder blending technologies, allowing it to produce high-quality SMPP/WMPP tailored for industrial use in South Korea.

As shown in Table 2, under the EU-Korea Free Trade Agreement (FTA), which came into effect in 2011, tariff-free quotas were established for Skim Milk Powder (SMP), Whole Milk Powder (WMP), and Whey Powder. These quotas:

- Allow for duty-free imports within specified quantities.
- Are managed through an auction system by the Korea Agro-Fisheries & Food Trade Corporation, as defined by the FTA.
- Have gradually increased in volume, thereby boosting imports of SMP, WMP, and Whey Powder into South Korea.

Table 2. Quotas and Tariffs for Milk Powder Products

Product type	Tariff general (%)	WTO			EU-Korea FTA		
		In-quota tariff (%)	Quota (ton)	Managed by	Staging category (yrs) ²	Quota change (ton)	Managed by
SMP	176	20	573	KDIA ³	-	1,000→1,512 (in 16 years) ⁴	aT ⁵
WMP	573	40	40	KDIA			
S(W)MPP1	36	-	-		10	-	-
S(W)MPP2	36	-	-		10	-	-
CP	8	-	-		5	-	-
Whey Powder	49.5	20	54,233	KDIA	-	3,350→ 4,243 (in 10 years) ⁶	KDIA
Whey Protein	8	-	-		5	-	-
Casein	5 or 20	-	-		5	-	-
Lactose	49.5	20	9,400	KDIA+6as sociations	5	-	-

² Starting from 1 July 2011 (the date the FTA took effect), tariffs for products under each “staging category” have been gradually reduced to zero over the specified number of years.

³ Korea Dairy Industries Association

⁴ After Year 16, the in-quota quantity will remain fixed at the level established in Year 16.

⁵ Korea Agro-Fisheries Trade Corporation

⁶ After Year 10, the in-quota quantity will become unlimited.

As for the tariff schedules of SMPP1, SMPP2, WMPP1, WMPP2, Cocoa Preparations (CP), Whey Protein, Casein, and Lactose, which are assigned “staging categories” under the EU-Korea FTA, all tariffs have now been fully eliminated. Specifically, products in Staging Category 5—such as CP, Whey Protein, Casein, and Lactose—have had zero tariffs since 1 July 2016, while those in Staging Category 10—including SMPP1, SMPP2, WMPP1, and WMPP2—have enjoyed duty-free access since 1 July 2021.

2) Domestic Market Conditions

Imports of Skim/Whole Milk Powder (S(W)MP) and their preparations (S(W)MPP) have fluctuated in response to changes in local stock levels. When domestic S(W)MP inventories declined, milk powder imports increased to offset the shortfall. A notable example occurred in 2011, when Foot-and-Mouth Disease (FMD) outbreaks severely impacted South Korea’s livestock sector. As a result, local S(W)MP stocks were nearly depleted, prompting a record-high level of milk powder imports, particularly of S(W)MPP. This surge was made possible by the South Korean government’s decision to introduce a provisional zero-tariff quota for S(W)MP to stabilize the domestic market. Some Dutch exporters of S(W)MPP were able to participate in this provisional quota, benefiting from temporary duty-free access. Following the containment of FMD in 2012, the domestic dairy industry began to recover, and stock levels gradually returned to normal.

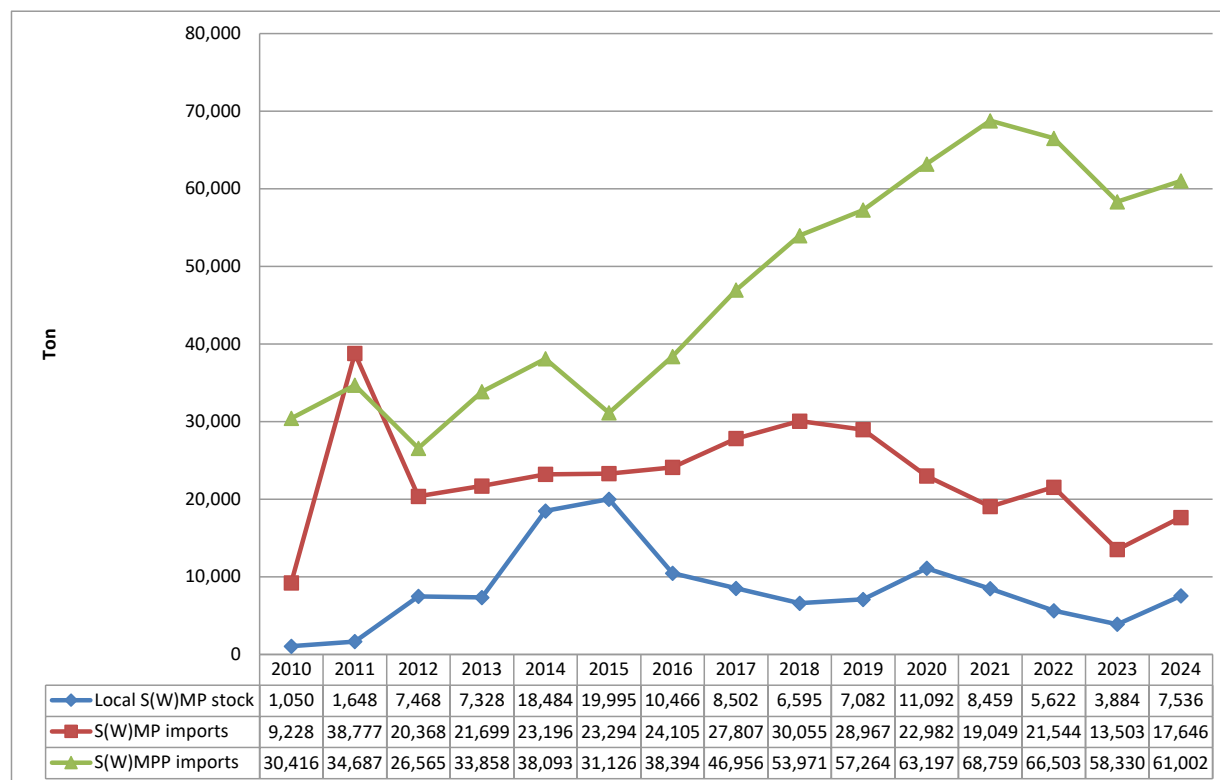
Since 2004, South Korea has signed Free Trade Agreements (FTAs) with several countries, including Chile, the European Union, the United States, Australia, and New Zealand. These agreements have progressively allowed milk powder products to be imported into South Korea at reduced or zero tariffs, thereby significantly enhancing the price competitiveness of imported milk powder in the South Korean market.

In August 2013, the South Korean government introduced a new raw milk pricing scheme known as the Milk Price Linkage System (MPLS). Prior to this, the official price of raw milk was determined through difficult negotiations between the government and dairy farmers every two to three years. The MPLS was implemented in response to pressure from dairy farmers, and it set the raw milk

price annually, based on production costs and the national inflation rate. However, the system has faced criticism for failing to reflect actual market conditions, particularly supply and demand. Even during periods of milk overproduction and rising SMP/WMP stock levels, the price of raw milk remained artificially high. As a result, farmers have little incentive to improve efficiency, since the price is effectively guaranteed. This has contributed to a decline in the price competitiveness of domestically produced raw milk, leading to a drop in South Korea’s dairy self-sufficiency rate—from 77% to 48% over the past 20 years—as the country increasingly imported dairy raw materials and began importing finished dairy products such as milk and flavored milk.

For the reasons outlined above, milk powder imports have steadily increased since 2015, as shown in Figure 1. The growth in S(W)MPP imports has been more pronounced than that of S(W)MP, as S(W)MPP is not subject to import quotas or volume limitations, making it more accessible and cost-effective for South Korean importers and food manufacturers.

Fig. 1. Local Stock vs. Imports of S(W)MP and S(W)MPP by Year



3) Competitive Landscape

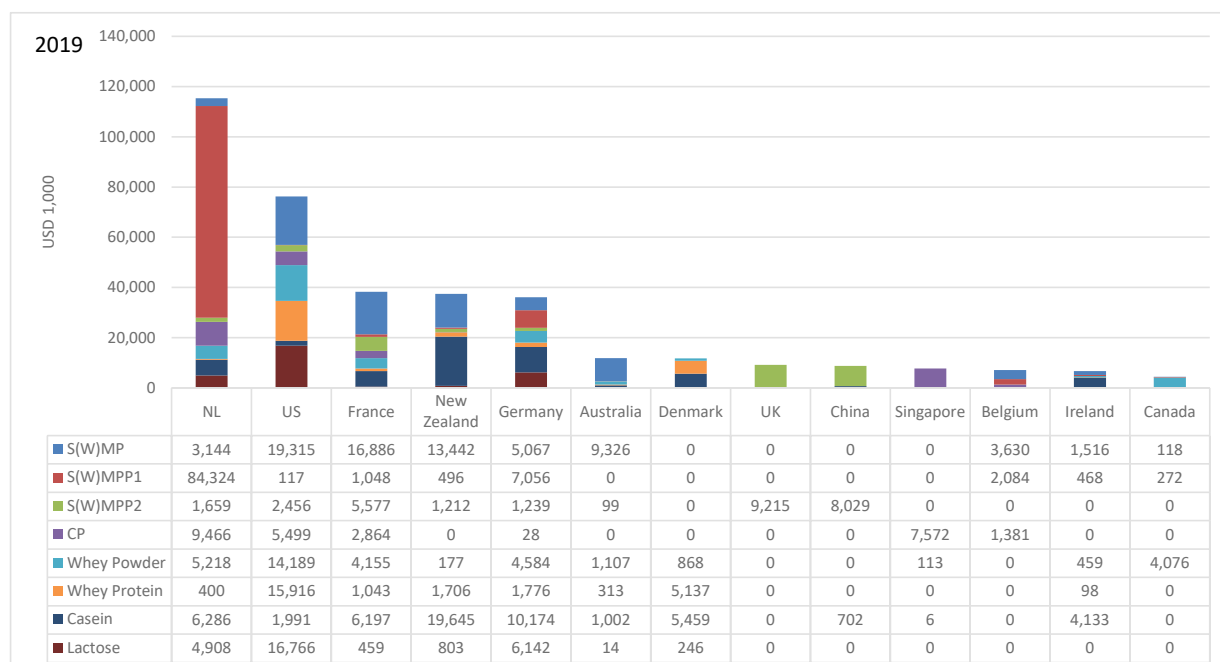
Countries in Europe, North America, and Oceania are the primary competitors in the South Korean milk powder market. The largest exporter is the Netherlands, which accounted for 28% of South Korea’s total milk powder imports—equivalent to USD 148 million out of USD 519 million—followed by the United States, New Zealand, France, and Germany.

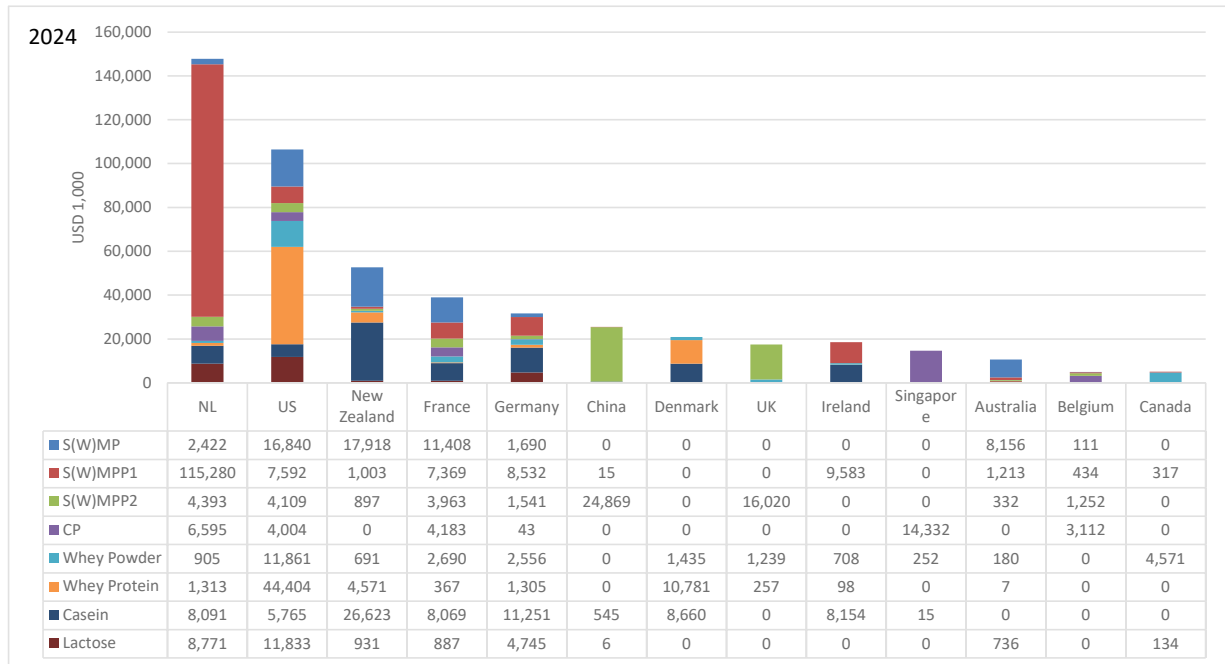
Each country has its strengths:

- The Netherlands excels in S(W)MPP1, Cocoa Preparations (CP), and Whey Powder.
- The United States is strong in Whey Protein, Whey Powder, and S(W)MP.
- France performs well in the S(W)MP segment.
- New Zealand is the largest exporter of Casein to South Korea.

Over the past five years, as shown in Figure 2, the Netherlands has strengthened its position in the S(W)MPP market, despite losing market share in CP and Whey Powder. The United States recorded significant growth in Whey Protein, while New Zealand made notable gains in S(W)MP. In contrast, France, Germany, and Australia have seen a decline in their shares, particularly in the S(W)MP segment.

Fig. 2. Value Share of South Korea’s Milk Powder Imports by Country (2019 & 2024)





4) Market Trends

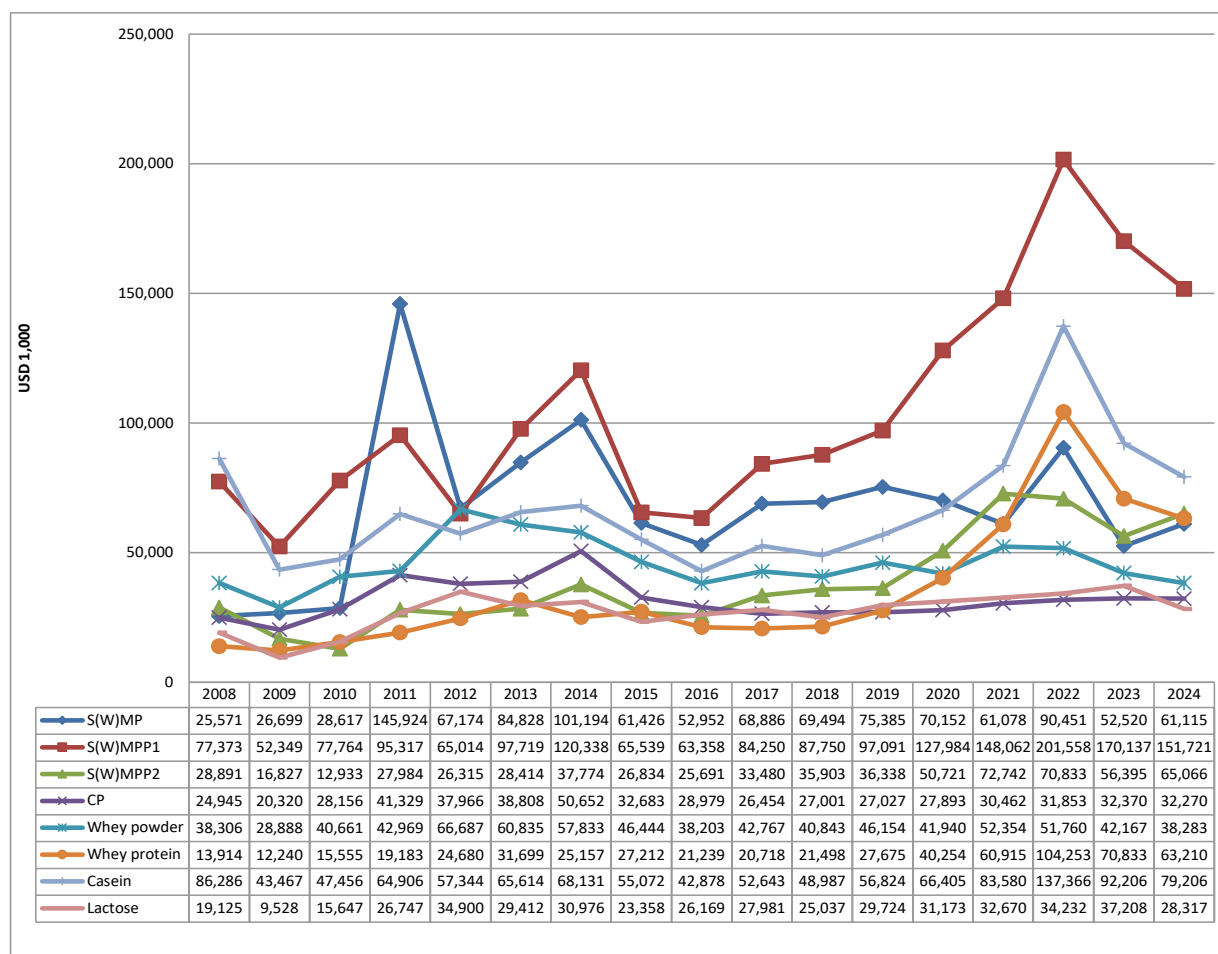
During the period between 2011 and 2014, when Foot-and-Mouth Disease (FMD) affected the local dairy sector, milk powder imports fluctuated. Since 2016, however, imports have stabilized and shown steady growth.

Despite an increase in FTA quotas for S(W)MP, imports of S(W)MP have remained flat or even declined. This suggests that South Korean buyers prefer S(W)MPP over S(W)MP due to its greater convenience in trade procedures.

Since 2019, the import value of whey protein has grown significantly, driven by the rising popularity of high-protein products in the South Korean market. Exporters from the United States and New Zealand have particularly benefited from this trend.

The downturn since 2022 can be attributed to the sharp depreciation of the South Korean won (KRW), which fell by approximately 11% against the US dollar by 2024—reaching its weakest level in 15 years. The depreciation increased the cost of imports and negatively affected agri-food exports to South Korea.

Fig. 3. Annual Import Value of Milk Powder Products into South Korea



3. Detailed Information by Milk Powder Product Type

1) S(W)MP (Skim/Whole Milk Powder)

Since the basic tariff on S(W)MP is very high (176%), imports must be made through the WTO or FTA quota systems. The Free Trade Agreements (FTAs) that South Korea has signed have contributed to an increase in import quotas. In addition, customs duties on S(W)MP can be exempted if the imported products are used exclusively in the production of food products intended for export from South Korea.

In 2024, total imports amounted to USD 61 million, with New Zealand (29%⁷), the United States (28%), and France (19%) leading the market.

⁷ All country shares mentioned hereinafter refer to their respective value shares.

2) S(W)MPP (Skim/Whole Milk Powder Preparation)

In the past, Dutch milk powder exporters introduced the idea of blending S(W)MP with other types of powder products to reduce customs duties in the South Korean market. When blended, the product is classified as S(W)MPP under HS codes 0404900000 or 1901902000, reducing the tariff rate to 36%—which is eliminated entirely under the EU-Korea FTA.

S(W)MPP1, classified under HS code 0404.90.0000, typically consists of 85–88% S(W)MP and 12–14% of other milk powder products such as whey powder and whey protein. The most well-known formula includes 85% SMP and 15% demineralized whey permeate, which is widely used by milk and yogurt manufacturers. Another popular blend—especially among ice cream producers—contains 88% SMP, 6% whey protein, and 6% demineralized whey powder or permeate.

S(W)MPP2, under HS code 1901.90.2000, generally comprises 72–85% S(W)MP and 15–28% of other powdered ingredients such as sucrose, maltodextrin, fiber, and coconut oil. These blends are primarily used in ice cream production.

When milk powder is blended with other powder products, its quality generally declines due to additional heating or processing during blending. However, the price advantage from lower customs duties is substantial. The South Korean dairy sector welcomes these compound milk powders, as they help reduce production costs for their dairy products.

In 2024, total imports of S(W)MPP1 and S(W)MPP2 amounted to USD 152 million and USD 65 million, respectively. The Netherlands was the largest exporter of S(W)MPP, accounting for 55% of total imports. For S(W)MPP1 specifically, the Dutch market share exceeded 76%. Given that the Netherlands has superior blending facilities for milk powder production compared to its competitors, its strong position in the South Korean market is expected to continue.

3) CP (Cocoa Preparation)

CP typically consists of 85% skim milk powder and 15% cocoa mass or cocoa powder. Since only an 8% tariff was imposed on CP—even though it contains a high

percentage of SMP—South Korean manufacturers of chocolate, chocolate ice cream, and chocolate milk have favored CP over pure cocoa mass or cocoa powder. This tariff was completely eliminated as of July 1, 2016.

There are two types of CP imported into South Korea: HS code 1806209010 (SMP + cocoa mass) and HS code 1806909010 (SMP + cocoa powder). Since 2011, products under HS code 1806909010 have not been imported, as South Korean consumers have increasingly preferred higher-quality chocolate products made with cocoa mass (HS code 1806209010). Cocoa mass is recognized as a higher-value ingredient.

In 2024, total imports amounted to USD 32 million. Recently, the Netherlands lost its leading position as Singapore took the lead with a 44% market share. Over the past five years, the Dutch share declined from 35% to 20%.

4) Whey Powder

The basic tariff on Whey Powder is high at 49.5%. Consequently, most whey powder imports into South Korea occur through the WTO or FTA quota systems. Regular whey powder is primarily used in flavored milk and beverages, while Demineralized Whey Powder (DWP), which accounts for about 30% of total whey powder import volume, is used in infant formula. Whey Protein Concentrate (WPC) containing less than 80% whey protein (HS codes 0404102131 or 0404102139) is also classified as whey powder under the HS classification.

There is only one local producer of whey powder in South Korea, with an annual output of approximately 2,000 to 3,000 tons, meeting just 5–7% of domestic demand. The remainder is supplied by imports. In 2024, total imports amounted to USD 38 million. The United States was the largest exporter, accounting for 31% of imports, followed by Canada as the second-largest exporter with an 12% share.

5) Whey Protein

Whey Protein Concentrate (WPC) containing at least 80% whey protein is classified as Milk Albumin (HS code 3502200000), which carried an 8% tariff rate. Since this tariff was completely eliminated on July 1, 2016, South Korean importers

have preferred to import WPC under the Milk Albumin classification rather than as Whey Powder (HS codes 0404102131 and 0404102139). Regular WPC is mainly used in infant formula, while hydrolyzed or modified WPC is used as a gelling agent in yogurt.

In 2024, imports of whey protein totaled USD 63 million, more than double the amount imported five years earlier. The United States was the largest exporter, accounting for 70% of total imports, followed by Denmark and New Zealand with market shares of 17% and 7%, respectively.

6) Casein

The tariff rate on casein and caseinate was 8% but was completely eliminated as of July 1, 2016. Casein and caseinate are primarily used in artificial milk powder and coffee creamers. In 2024, imports totaled USD 79 million. New Zealand was the largest exporter, accounting for 33% of total imports, followed by Germany (14%) and the Netherlands (10%).

7) Lactose

Due to the high tariff rate of 49.5%, lactose had to be imported into South Korea within the WTO-designated in-quota quantity. However, this requirement was eliminated on 1 July 2016, when the tariff was fully removed under the EU-Korea Free Trade Agreement (FTA).

Lactose in South Korea is primarily used for pharmaceuticals, animal feed, and infant formula. As there is no domestic production, all lactose consumed in the country must be imported. In 2024, total lactose imports amounted to USD 28 million.

The United States was the leading exporter of lactose to South Korea in 2024, accounting for 42% of total imports, followed by the Netherlands (31%) and Germany (17%).