

Whitepaper Fish

From the port to the customer's plate: **keep fish fresh until consumption**

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Fresh fish is not only tasty, but also very healthy. The correct transport and storage conditions are of great importance in preserving the taste and quality of fish. Ideally, fish should be stored and transported at a temperature around freezing point and consumed as soon as possible after purchase. But with the rise of online retail, we also see an increasing demand for frozen transport solutions. How do you approach the chilled or frozen transport of fish to maintain quality? We'll tell you in this whitepaper!

The fish sector in Europe

According to [EU data](#), Greece is on top of the list if we look at the amount of fishing boats: in 2021 19,1% of all fishing boats were owned by Greece fishers. Although large in numbers, the boats are usually smaller compared to the ones in other countries: Greece only represents 5,2% of the bruto tonnages fish caught, about five times less than the fisherman in Spain who are on top of the list with 24,4% bruto tonnages fish in 2021.

We can observe several trends in the fishing industry. In the field of sustainability, for example, we see that ways are being sought to utilize residual flows. There is also a culinary revaluation of the origin of the fish, which means that locally caught fish is increasingly appreciated. This offers opportunities for wild caught fish. Sea food is also appearing on more and more menus.

Fish consumption in Europe and the Netherlands

Fish is healthy thanks to the vitamins and fatty acids in fish. For example, eating fish once a week can protect you against cardiovascular disease, and it also has a beneficial effect on your blood pressure. Fish is labeled 'fatty' when it contains at least 5% fat. In addition to healthy fats, many types of fish, shellfish and crustaceans contain vitamins B12 and B6.

In Europe, we yearly consume about [24-25 kg fish](#) per person. That's a bit more than in the Netherlands: here it is about 21-22 kg. The amount of kilos we actually eat is lower: after removing non-consumable parts like shells, we yearly eat about 4-6 kg fish per person. 42% of this is oily fish. Men eat slightly more fish than women, but the differences are not too large.

Chilled or frozen transport?

Where fresh fish from the sea should be consumed as quickly as possible, frozen fish is often already frozen on board to inhibit bacterial growth. This means that the quality of frozen fish is just as good as that of fresh fish, concluded research from the Norwegian Institute of Nutrition and Seafood Research (NIFES). Fresh fish in supermarkets is usually also frozen on board the ship and thawed before sale.



Fresh fish is usually cooled immediately upon arrival at the port – usually with help of flake ice. By transporting the fish in EPS boxes with leak holes, the melt water can drain out of the box. This preserves the quality of the fish. Also on the market, fish is usually cooled by means of flake ice. Fish that arrives at the fish shop is usually kept fresh in refrigerated display cases or refrigerated counters.

Off to the customers' homes

From the catch to the consumption of fresh fish, it is important that the fish is kept cool. This way the taste, structure and quality of the fish remain good. Not only in the transport from the port to the fish shop or market stall, but also with the consumer to his/her home. Retailers therefore package the fish very carefully.

For example, you can use [gel packs](#): disposable cooling elements that cool the fish as close as possible to the freezing point. These can be printed with your own logo or print and the customer can reuse them at home.

Transporting frozen fish with Phase Change Material

During the corona pandemic, retailers started delivering at home. Larger fish webshops usually choose to freeze fish and send it frozen. Because the fish products go to individual consumers (often via an external transporter), a freezer van is not an efficient choice. We recommend to our customers Super gel packs at -21 °C or [Freezer Traypacks at](#)

Use **-16 °C Freezer Traypacks** to keep your fish products frozen



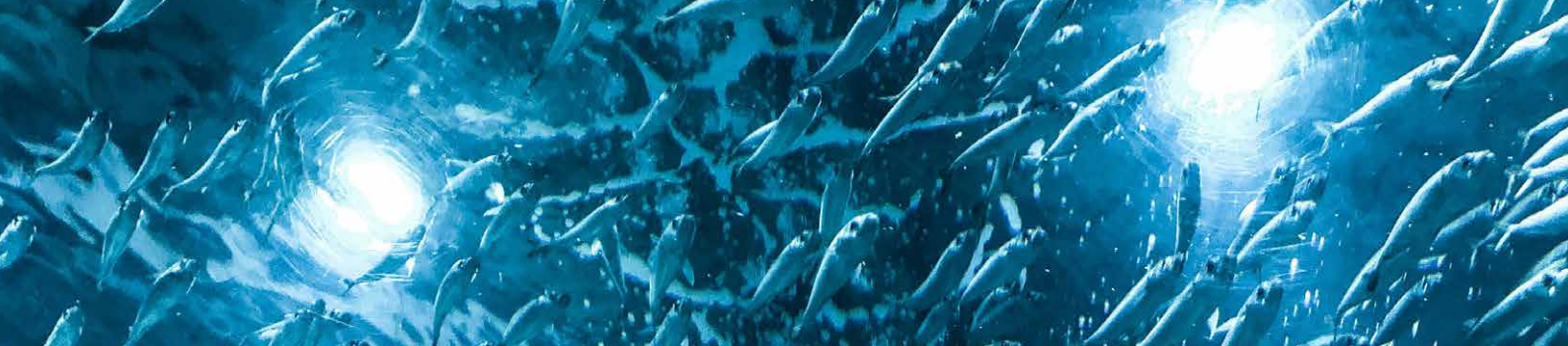
[View product](#)



[-16 °C](#) in combination with [EPS \(polystyrene\) boxes](#) and absorption mats.

The Super gel packs have a cooling filling of [Phase Change Material](#): the recipe of the gel has been adjusted so that the solidification and melting point is not around 0 degrees, but at -21 °C. As a result, the fish remains below the critical limit of -12 °C for frozen food products for a long time. Because melt water and moisture can be released during transport, we recommend using absorption mats in the packaging to absorb this. Finally, good insulation packaging is important to ensure temperature stability under extreme external conditions. For fish we recommend EPS boxes or reusable EPP cool boxes.





Transporting fish by plane: cooling and absorbing

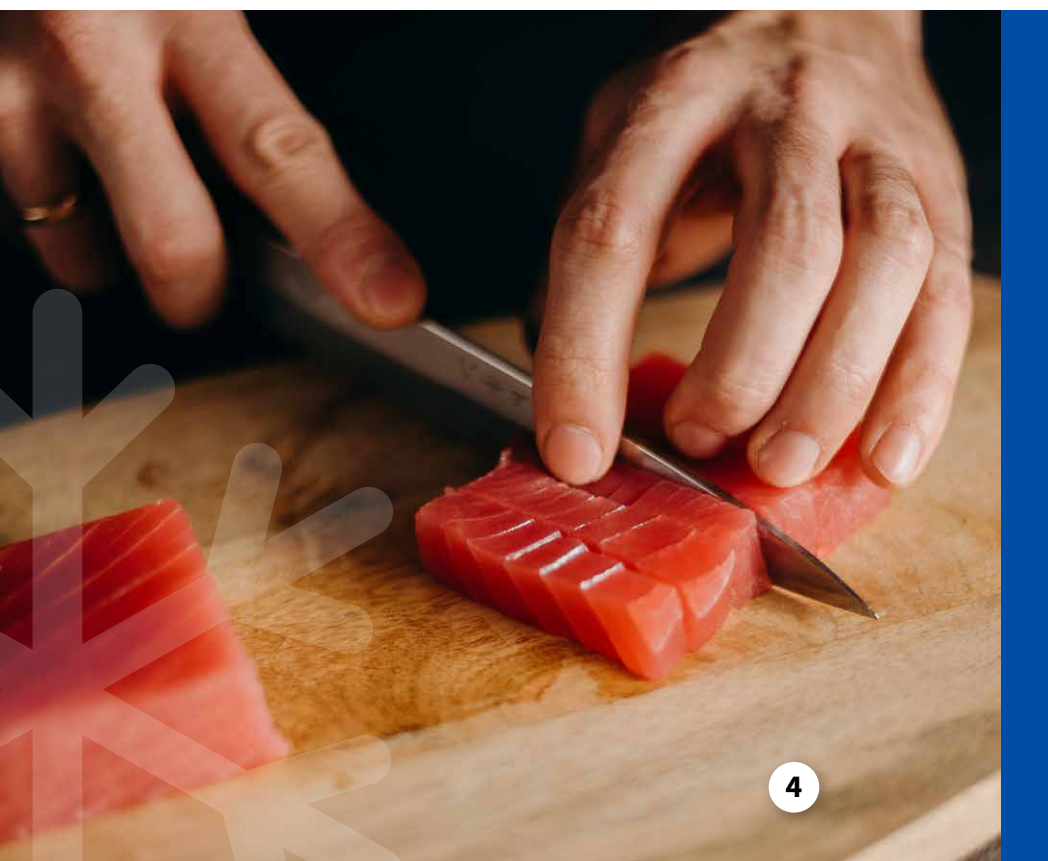
Does the fish have to be transported abroad, for example by plane? Then gel packs in combination with well-insulating [EPS boxes](#) and absorption mats are suitable means to keep the fish cool and fresh. Regular gel packs keep the fish cooled for a transport time of 24 to 48 hours, depending on external conditions. Most fresh fish is best stored and transported at a temperature of 4-7 degrees Celsius. To keep the fish at the desired temperature for as long as possible, it is best to pack it in a well-insulated packaging box.

A commonly used box for this application is the EPS box. This box is made of expanded polystyrene, also known as styrofoam, EPS or tempex. This material has a high insulating capacity and is also light and dimensionally stable. EPS also has a high impact resistance and shock resistance. The material is easily recyclable through recycling companies.

It is also insensitive to UV radiation, moisture and mould. As a result, your products are well protected during transport. The thicker the walls of the EPS box, the higher the insulating capacity of the box. So pay close attention to this if you want to transport your goods cooled or conditioned.

Moisture is usually released during transport. To preserve the fish properly, it is therefore wise to use absorption materials. Consider, for example, adding absorption mats in the shipping packaging. To prevent frost damage to the fish, it is advisable to ensure that the gel packs do not come into direct contact with the fish.

For frozen transport we recommend the use of Super gel packs or Freezer Traypacks: both are a safe dry ice alternative where, unlike dry ice, no maximum applies for air transport. Moreover, prices and availability of the -21 °C Super gel packs and -16 °C Freezer Traypacks are much more stable.





Tailored advice

Are you curious about the possibilities for your specific issue? At [Coolpack](#) we have more than 20 years of experience in supplying the best cooling and freezing materials. Our product range varies from standard to custom-made refrigerated packaging, gel packs, ice packs, absorption mats and EPS boxes to total solutions for refrigerated and conditioned transport. Everything to ensure that your fish and other goods arrive at their destination in optimal condition. Our experts are happy to provide you with specialized advice.

Thanks to our own production facilities on site, tailor-made solutions can be delivered that are specifically designed for your application. Coolpack's products are of excellent quality and meet all legal requirements.

Do you have questions, would you like to place an order or would you like to receive personal advice? Please feel free to [contact](#) us using the details below: our team is there for you!

