

# About Katadyn Emergency food

One of the most important precautionary measures we must take for emergencies is to ensure that we have enough food to eat in case of a supply crisis. Continuing our dietary habits is decisive especially in times of crisis. Far-sighted people therefore stock their own personal emergency food supplies. The Katadyn Emergency Food packs guarantee optimal nutrition when times get rough.

The packs have been selected and put together on the basis of stringent nutritional science criteria. They focus on a balanced range of vitamins, carbohydrates, proteins, fats, and dietary fiber that are crucial for survival. We only use top-grade dehydrated and freeze-dried specialty foods for our emergency food. The foods are mildly seasoned and particularly suited also for infants and children as well as elderly persons.

All packs cover the needs of one person for a period of 30, 90, or 365 days. We guarantee a minimum shelf life of 10 years. All cans are of the ring-pull type and can be reclosed with plastic lids.

## Freeze-drying process

Food dehydration is the oldest method of increasing the shelf life of foods. For millennia, humanity has known that freshly harvested foods will not be spoiled if they are sun-cured. Such dehydrated foods used to be vital for survival during the wintertime, when food supplies were scarce.

Later on, it was found that the dehydration process could be accelerated and further improved by additional heating. Today, state-of-the-art technologies offer new and more advanced approaches to preserving foods.

Freeze-drying or vacuum evaporation guarantee a longer shelf life than any other method of preservation.

Put simply, the freeze-drying process can be described as follows:

1. For freeze-drying, only the very best foods are selected. All ingredients are subjected to rigorous quality checks and official monitoring.
2. Fresh or cooked instant meals are flash-frozen in order to preserve their fresh taste, color, and texture – and especially their nutritional value.
3. Then the frozen product is transferred to a vacuum chamber in which a special physical property of water is utilized. In a vacuum, frozen water will be abruptly transformed from the solid to the vapor state (sublimation), allowing the water to be removed from the food.
4. When the foods leave the vacuum chamber, they will have lost up to 90% of their weight and volume and are now ready for being packaged in airtight and watertight cans.
5. During canning, the oxygen contained in the can is replaced by nitrogen. The can is hermetically sealed in order to maintain the high quality of the foods.
6. When the process is reversed by adding hot or cold water to the freeze-dried foods, the foods are restored to their original condition.

**The freeze-drying process allows a longer shelf life to be achieved than with any other method of preservation.**

## Packaging for long-term storage

The greatest enemy of dehydrated or freeze-dried foods is moisture and oxygen. Combined, they will lead to oxidation, changing the taste and fragrance of foods. Therefore, for long-term storage, foods must be packaged in solid containers with minimum moisture and oxygen contents.

To achieve this, the oxygen is removed from the cans during packaging and replaced by nitrogen (79% of the air we breathe is nitrogen). The purpose of packaging under a nitrogen atmosphere is to prevent oxidation of certain components contained in the food. Common household containers such as bottles, plastic buckets, and airtight polyethylene bags will only maintain a low oxygen content for a few days and are therefore unsuitable for packaging. On the other hand, cans with residual oxygen content below 2% will maintain this level for years. A reliably sealed metal can thus offers the largest possible safety for long-term storage.

## Storage temperatures

The relationship between the air temperature and how foods change is a basic chemical process which occurs not only in connection with dehydrated or freeze-dried foods. The lower the temperature, the slower the chemical reaction and thus the rate at which the food changes.

Optimally, freeze-dried foods will be stored in a cool and dry place – at room temperature or less. Storage locations with temperatures exceeding 30 degree Celsius – for example attics – must be avoided, since this might speed up the degradation of the taste of the food and also of some of its heat-sensitive nutrients. In addition, storage locations exposed to continuous and wide temperature variations should be avoided. Temperature variations will not be problematic in connection with short-term storage during one or two years.