

What is the role of nitrogen in the food and beverage industry?



Food packaging is an important part of the food industry. Only well-packaged food products can satisfy customers. Food industry management needs to ensure that the flavor and nutritional value of the food is preserved when it is packaged and delivered to the customer. However, they also prefer low cost packaging to keep their food products affordable for the average person. As a result, the use of nitrogen is very popular among all food manufacturing and processing companies. The option of on-site nitrogen production can further make the packaging process easier. The use of nitrogen in packaged foods.

Nitrogen is introduced into food packaging. Nitrogen creates pressure on the food pellets and keeps the package from expanding. It prevents food pellets from being crushed when they are delivered to markets or customers. Although it is typically found in the packaging of potato chips, nitrogen can be used to safely package all types of food products.

The inertness of nitrogen prevents oxidation and other chemical reactions in these foods. Since nitrogen has no color, odor or taste, it does not cause any changes in the physical properties of the packaged food. In addition, nitrogen replaces the oxygen inside the package, avoiding the risk of oxidation of food components such as fresh fish, meat, fruits and vegetables. Because nitrogen is a dry gas, it prevents the growth of bacteria, fungi and other microorganisms that normally thrive in moist air.

The use of nitrogen in food packaging can increase the shelf life of packaged foods to a great extent. As a result, customers can expect fresh foods to be in the same condition as when they were packaged. However, most of these foods should be consumed soon after the package is cut and the nitrogen is released back into the atmosphere.

Nitrogen is a light gas that does not add weight to these packaged foods, making delivery of the food easier. It does not put too much pressure on packaged food particles, which can damage chips and other crunchy foods. No other atmospheric gas is better suited for packaging. Its physical and chemical properties mark it as a better packaging gas than carbon dioxide and nitrous oxide, the other two possible choices considered as packaging gases.

When packaged with nitrogen, the nutritional value of the food is preserved. Thus, packaged foods remain as healthy for consumers as they are intended to be. It can take a long time to transport food products to distant places and for this reason, packaging with nitrogen is the best solution to keep food and beverages fresh and healthy until they reach the customer.

The use of nitrogen in wine and other beverages.

The main purpose of nitrogen in the winemaking process is to remove and prevent oxygen from coming into contact with the wine, similar to the way nitrogen is used in food packaging. Again, this is to prevent oxidation, which can spoil wine, which is why food-grade nitrogen should be used. After a bottle of wine is opened, oxidation is the reason it is only drinkable for a few days - the longer it is exposed to oxygen, the less drinkable (more acidic or vinegar-like) it becomes.

Nitrogen is used in a variety of ways to prevent wine from oxidizing. Nitrogen sparging is used to counteract the presence of oxygen in the wine that forms during fermentation. Nitrogen infusion introduces tiny bubbles into the wine that combine with oxygen and pull it out of the bottle.

Another application of nitrogen in the winemaking process is nitrogen purging. Storage methods include moving the wine between barrels and containers (to prevent the formation of sediment). The hoses used to transport wine between containers are purged with nitrogen to remove any oxygen that might oxidize the wine if it comes in contact with it.

On-site nitrogen production for the food and beverage industry.

Using cylinders for these industries is very inconvenient as they require constant monitoring, replacement, frequent ordering and delivery. Transporting nitrogen from the production site to where the food is packaged can be cumbersome. Shipping nitrogen by pipeline or purchasing nitrogen cylinders at a high cost can also increase packaging costs. Therefore, producing nitrogen on site can solve this problem for the food and beverage industry and reduce their packaging costs. When nitrogen is produced on site with a nitrogen generator, there is no need to place orders, wait for supplies, or deal with delays. Since the facility that owns the nitrogen generator produces its own gas, it is never subject to changes in nitrogen prices.

Therefore, a reliable nitrogen production company should be contacted to install an on-site nitrogen generator at a food processing company's packaging site. XITE nitrogen

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