Shelf Stable Milk for Schools
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OUR VISION

We commit to making food safe and available, everywhere
Protecting Food, Protecting People, Protecting Futures
The pillars of our brand and the chapters of our sustainability story

**FOOD**
Safety, Quality & Availability
Protecting your products with our processing & packaging solutions.

**PEOPLE**
Employees, communities & society at large
Safeguarding, supporting and developing those whose lives we touch.

**PLANET**
Innovative technologies & smart solutions
Understanding and supporting our customers’ business growth ambitions.

**PLANET**
Full life cycle approach
Contributing to a circular economy that is low carbon, with environmental excellence along the entire supply chain.
Tetra Pak is a provider of food processing solutions, end-to-end! We are more than a package.
Our innovation focus areas
Processing & Packaging System Supplier

- Liquid Food
- Processing Systems
- Package Material
- Filling Lines
- Distribution solutions
- Carton

Services

Tetra Pak® Services Solutions
What's the difference between these terms?

- Aseptic
- Shelf stable
- Ambient
- UHT (Ultra-high temperature)

These are all terms for milk that is processed at a high temperature and then filled in a sterile package.
A brief history of aseptic technology

1952
First paper-based package for milk

1961
Aseptic technology revolutionizes dairy consumption

1989
Aseptic technology named the greatest innovation of the 20th century

"A package should save more than it costs."
# Milk Process: Pasteurization vs UHT

<table>
<thead>
<tr>
<th></th>
<th>Pasteurization</th>
<th>UHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time in Seconds</td>
<td>20-40</td>
<td>20</td>
</tr>
<tr>
<td>Temp °F</td>
<td>100-200</td>
<td>300</td>
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Pasteurization and UHT processing for milk
Aseptic packaging is made of six layers that maintain a sterile barrier to light, bacteria, oxygen and more, all of which can spoil milk.

The aseptic carton is recyclable and can sorted with mixed containers.

There are many aseptic packages available in different shapes and sizes with different openings.
UHT treatment + aseptic packaging

Safe and nutritious shelf stable milk
Shelf stable milk is the same nutritious milk as chilled milk

The process of making a product shelf stable ensures the product will be safe (won’t grow harmful bacteria) without requiring refrigeration before opening for a long time period.

Tetra Pak® Aseptic cartons provide 6 layers of protection to keep the dairy milk inside safe from light, oxygen, bacteria and more without the need for additives or preservatives.
Shelf stable milk drives savings

**HOW?**

- Can be delivered via dry truck
- Does not need to be chilled until the day before of consumption
- Decreased delivery frequency from every other day to once every two weeks
- Longer shelf life helps reduce milk waste due to spoilage
- Stacks well and takes up less space

**SAVE SPACE AND ENERGY**

- Decreased delivery frequency from every other day to once every two weeks
- Longer shelf life helps reduce milk waste due to spoilage
- Stacks well and takes up less space
Shelf stable reduces headaches!
Schools really liked the package, most had a positive reaction

Managing code dates

Bad weather and missed deliveries

No leaking

No cooler cleaning

No inventory run-out, no early deliveries the week before school restart

Fewer spills to clean up at tables

Emergency preparedness

Access to schools limited due to safety concerns

Source: Prime Consulting Aseptic Milk Test 2018/2019
Smarter for logistics, smarter for schools

From the elimination of chilled distribution in refrigerated delivery trucks, to the ability to store milk in bulk without refrigeration when unopened, the benefits of shelf stable milk are hard to ignore.

Reduce CO2 emissions by the equivalent of driving 248 miles – simply by eliminating truck refrigeration needs and decreasing delivery frequency!

*Based on results from the 2018/2019 School Milk Pilot Program Study

*J. Public Health

Potential to reduce delivery frequency from 2 per week to 1 every other week*
Shelf stable milk is great solution for your schools!

- Distribution savings
- Convenient, less handling
- Sustainable, less waste
- Social Feeding – Backpack program
Shelf Stable Milk
FAQs

SMART, SAFE AND SHELF STABLE

► Can aseptic milk be taken in and out of the refrigerator multiple times, without spoilage? As long as the Tetra Pak® package has not been opened, you can move the aseptic milk carton in and out of the refrigerator without worry of spoilage. However, once the package has been opened, aseptic milk has the same shelf life as pasteurized milk.

► What is the shelf life of aseptic milk? Before opening, aseptic milk has a shelf life of 6-12 months. Once opened, it has the same shelf life as pasteurized milk.

► Why isn’t aseptic milk common in the U.S.? The U.S. has a chilled system in place for milk and other staples that has served us for many years. But, the market is changing and there are many factors driving the need for longer shelf life products, such as growing demands on transportation and distribution networks, a focus on sustainability, the need to reduce food waste, and unforeseen circumstances such as COVID-19 and weather events.

► Is the nutritional value different from chilled dairy milk? The nutritional value of aseptic shelf stable milk, including protein, calcium and Vitamin D, is no different than chilled options and meets all nutritional requirements.

► What is the preservative used to allow a long shelf life? No additives or preservatives are needed to prolong the shelf life of aseptic milk. The ultra-high temperature (UHT) treatment process, paired with the aseptic packaging allows for long shelf life.

► Are there various options, such as flavored, lactose free and fat free, available in shelf stable milk? Product availability is based on your milk producer/processor and/or distributor.

► Besides milk, can other dairy products be made shelf stable? Yes. Common aseptic dairy products include cream, coffee creamers, buttermilk, evaporated milk, etc.

► Does aseptic packaging contain Bisphenol-A (BPA)? Aseptic packaging is made up of six layers that include polyethylene, paper, paperboard, aluminum. These materials do not contain BPA. Polyethylene is a BPA-free plastic that shields the food from the aluminum lining, which helps protect the product from air and light, eliminating the need for preservatives or refrigeration.

► Is shelf stable milk more expensive than chilled milk? The pricing decisions for milk products are made by processors and/or distributors. Cost savings and more can be realized with less frequent delivery, room temperature storage, and less milk waste.

► Any recommendations on when I should refrigerate shelf stable milk prior to consumption? We recommend chilling shelf stable milk the day before consumption simply because most people prefer the temperature of chilled milk over room temperature milk.

► Can kids take unopened milk with them for later consumption if they don’t drink it during lunch? Shelf stable milk remains safe without refrigeration when unopened. So, kids can take milk packaged in aseptic cartons with them to consume later (after school programs, activities, sports, grab-and-go meals, weekly boxes being sent home, etc.). Aseptic milk cartons are also great for backpack programs and meal distribution programs.

► Are aseptic milk packages recyclable? Yes, aseptic milk cartons are recyclable and can be thrown into the recycle bin. For more information, please contact the Carton Council. https://www.recyclecartons.com/

► Does shelf stable milk taste different from chilled milk? Does this impact consumption? There is a slight difference. However, most people will not notice it, especially in flavored milk. We have conducted several studies in school districts across the country that show conversion was not an issue. In fact, students drank more of the milk in aseptic cartons and sales increased.

► Are shelf stable cartons more sustainable than chilled, gable top cartons? All Tetra Pak® cartons are recyclable and are primarily made from renewable resources. Shelf stable milk allows you to transport and store without refrigeration, and its long shelf life reduces milk spoilage and waste, all of which contribute to lower greenhouse gas emissions.

► Are ultra-heat treatment (UHT) systems the only way to achieve longer shelf life for dairy products? No. Microfiltration, backflushes and other bacteria/spore removal methods are possible methods to extend shelf life. UHT is the only method for making commercial shelf stable products that is approved by the FDA under 21 CFR113.
How to contact us at Tetra Pak

Scan the QR code with your cellphones camera to learn more about school milk

https://www.tetrapak.com/en-us/schoolmilk

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