

Military DLA Troop Support UHT Industry Guidance

The following information is provided:

November 2022

Industry advises that all UHT milk shipped from their facility has undergone extensive incubation testing at 98 degrees F to verify commercial sterility. Microbiological incubation testing is a verification of the time and temperature charts recorded for each lot produced, which indicate that the milk received the proper lethality necessary to render the product commercially sterile.

Industry has performed storage studies by holding UHT milk at temperatures higher than 80 degrees F, and lower than 32 degrees F. Results of these storage studies indicate no sterility problems encountered. However, for higher temperatures, changes in taste, texture, and color have been noted. For lower temperatures, a breakdown of the milk occurs.

Storage temperatures at freezing or below cause product breakdown. Freezing tends to affect the fats and proteins. The milk may become grainy in texture, and the protein denatures to the degree that there is a settling of the product.

Increased storage temperatures tend to age the product quicker. The following physical characteristic changes have been observed. A browning of the milk may occur because of sugars and enzymes present. A possible change in taste may be noted, in that the milk may have a flat taste. This can be overcome by chilling the milk prior to serving. A possible change in texture may occur, where flecks of cream may separate to the top of the carton. Shaking the container before serving should dissipate these flecks of cream.

If UHT milk is stored for an extended amount of time at 110 degrees F or higher, product spoilage may occur. For commercially sterile product, pathogens and bacteria that can grow at normal temperatures have been eliminated. When UHT milk is exposed to extremely high temperatures (110 degrees F or higher) other bacteria not destroyed by the Ultra-High Temperature process may find favorable conditions for survival and growth, thereby causing product spoilage.

If UHT milk is held at ideal storage temperatures (50-90 degrees F) and normal humidity (50%), the product will retain its freshness through the expiration date and beyond.

DLA Troop Support and industry recommends no direct sunlight exposure. While the foil lining in the carton keeps UV rays from entering the carton and depleting the nutritional value, when the cartons are exposed to direct sunlight, surface heating of the product may occur.

DLA Troop Support and industry recommends that no damaged or abnormally-appearing cartons be served.

DLA Troop Support recommends that UHT milk be consumed prior to the expiration date stamped on each carton, and DLA Troop Support recommends no extension of shelf-life for UHT milk.

DLA Troop Support recommends that when in doubt, randomly select samples, and perform Open Package Inspections of the milk.