

# Oysters

Revised 2018

## Thermal Properties

	English	Metric
Moisture, %	85.16	--
Protein, %	7.05	--
Fat, %	2.46	--
Carbohydrate, %	3.91	--
Fiber, %	0.0	--
Ash, %	1.42	--
Specific Heat Above Freezing	0.91 Btu/lb*°F	3.83 kJ/(kg*K)
Specific Heat Below Freezing	0.51 Btu/lb*°F	2.12 kJ/(kg*K)
Latent Heat of Fusion	122 Btu/lb	284 kJ/kg

## Storage Conditions

The expected storage periods cited are based on good quality raw material handled by good commercial practices, and periods of time stated are from time of harvesting, processing, or freezing.

	Temperature		Expected Storage Life
	°F	°C	
Fresh			
In shell	38-42	3-6	10-14 days
Shucked meats	34-37	1-2.8	9-14 days
Chill-Pak	34	1	14 days
Frozen			
In shell	usually not frozen in this manner		
Meats in hermetically sealed containers	-20	-27	8-12 months
IQF	-20	-27	6-12 months
Breaded	-20	-27	6-10 months
Blast Frozen Polybags	-20	-27	1 year max.
Retail Metal Cans	0	-18	12-18 months
Mylar Pillow Packs	0	-18	3-4 years

The storage life of fresh oysters may vary significantly due to differences in physical condition at the time of harvest and the type and number of bacteria present. Retention of good quality in fresh oysters requires that the temperature be held as close to 32°F (0°C) as possible. Exposure to higher temperatures for even short periods of time (1-2 hours) in which the temperature is raised to above 50°F (10°C) results in increased drip (liquid); a flaccid appearance; a flabby, soft texture; stale, watery flavor; and accelerated bacteria growth. Prolonged storage results in the development of a cloudy appearance in the liquid as well as the above characteristics and is usually accompanied by spoilage odors and oxidative rancidity.

Freshly shucked oysters are generally above pH or acidity of 6.0 (up to 6.6), and even when stored at close to 32°F (0°C) become more acidic (lower pH) in a few days. For this reason some buyers do not accept shucked oysters testing lower than pH 6.0.

Frozen oysters should be protected from quality loss by the use of proper packaging materials. It is important that storage temperature remains constant to prevent moisture transfer within the package. This is especially true with IQF and breaded oysters as the void spaces provide ample opportunity for sublimation and re-deposition of ice crystals resulting in dehydration and oxidation. Therefore, avoid fluctuating storage temperature, as this is more important to maintaining quality than storage at a temperature several degrees higher than that recommended. Frozen oysters exhibit quality loss by yellow-brown discoloration, general darkening, toughening, and a rancid, bitter flavor.

### Handling

**Shell oysters** need to be protected from drying conditions, heat, steam, steam condensation, or fresh water or the shells will open and the natural protection provided by the shell will be lost. They should be washed with potable water just before shucking, under carefully regulated conditions to avoid excessive uptake of water.

**Shucked oysters** should be placed in containers immediately after washing and sorting. The containers should be iced or chilled immediately. They need to be chilled as quickly as possible and crushed ice is often used for this purpose.

**Frozen oysters** usually are in the breaded form. However, oysters are sometimes frozen in cans, poly bags, plastic cups, or IQF (Individually Quick Frozen). Freezing should be completed before the product is packed in master cartons. Although oysters frozen in cans do not thaw rapidly, exposure to elevated temperatures may cause quality loss, elevated bacteria levels, and discoloration, especially on the surfaces exposed to the head space within the can. Exposing IQF oysters to above 32°F (0°C) for even short periods of time may cause the glaze to melt and upon refreezing will cause the oysters to freeze together. Exposure of breaded oysters to elevated temperatures causes the breading to become soggy and unsightly.

### Freezing

Only the freshest of oysters should be frozen. Oysters that are delayed in being frozen will have a short storage life and will show a combined quality loss typical of mishandled fresh and frozen oysters.

Moisture-vapor-proof packages or metal containers are a necessity, as discoloration, dehydration, and toughening develop if protection is not provided.

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