Butter: **It is one of the dairy products that is high in fat.**

The general composition of butter.

1- Fat: (80-85%).

2- Water: (12-18%).

3- Solids Non-fat : (protein 1.5%) / (lactose% 0.4) / (ash 15%).

4- Table salt: (0 - 3%).

The Iraqi standard for butter:

First: Definition:

Butter is the fat product obtained from the accumulation of fat granules in milk, cream, or yogurt or whey either by automatic or manual methods Without adding table salt and permitted coloring.

Second: equirements

1. The fat percentage should not be less than 80% milk fat.

2. The moisture content shall not exceed 18% in the case of unsalted butter

And about 17% in the case of salted butter.

3- The percentage of non-fat solids in milk is not more than 2%.

4-It is distinguished by the distinctive aroma and taste of freshly made butter

5- It is allowed to add pure cultures of harmless bacteria that produce lactic acid during the manufacturing process.

6- It is not allowed to add preservatives except for table salt

7- It shall be free from any food additives other than those stipulated in Clause Three of this standard.

8- The fatty part shall be free from other vegetable and animal oils and fats, so that its constants' numbers fall within the known scientific contrast range for those distinct constants of natural milk fat, where it must be:

a- The Reichert –Meissl number (RM)is not less than 22 and not more than 32.8, and this number is known

R.M It is the number of milliliters of 0.1 N sodium hydroxide Necessary to neutralize volatile fatty acids with water The result of distillation of 5 grams of fat

b- Polensky's number is not less than 1.5 and not more than 4 It is the base milliliters of 0.1 N sodium hydroxide needed to neutralize an acid C8 & C10 Which has no water solubility.

But with alcohol, resulting from distillation of 5 grams of fat Take advantage of this between the two numbers is

Detecting the existing adulteration because it is one of the most expensive fats compared to vegetable proteins and it is characterized by longitudinal fatty acids

c- The specific weight is not less than (0.905) at a temperature of 40 ° C

d. The concentration of butyric acid is not less than 17 and not more than 23

e- The refractive index is not less than 1.4524 and not more than 1.4561 at 40 ° C Comparing these numbers with other fats is considered low, and the reason is that milk fat contains short, smooth and more saturated fatty acids than others.

f. The iodine number is not less than 26 and not more than 38.

g - The acidity of the extracted fat does not exceed 1%, calculated as oleic acid.

The butter that gives acidity It means decomposing, but if it does not give acidity, it means Not decomposed Oleic acid I expressed that the hydrolysis process is random, but the percentage is high There is oleic acid in addition Other acids dissolve and this gives rancidity .Rancidity, which is the separation of Fatty acid From the entire glyceride molecule to the molecule As for oxidative stress Fission in the unsaturated fatty acid only generates Aldehyde ketones, and ketones, which have odors that differ from natural lipids, lipids, and rancid fats when assessing the acidity of a fat.

Fatty acids are appreciated as a whole, this means the smell of rancidity and its lack of acceptance appear after 1%, so this type of oils is rejected.

h. The proportion of table salt shall not exceed 2% in salted butter, and the salt shall be in conformity with the standard specification for salty butter.

I . The pH ranges between (6.6 - 7) in unfermented butter.

Third: Food Additives:

1- Colorants: The following colorants are allowed to be used

Annatto

Beta-carotene

Curcumin

2-Acidity regulators:

Which equates to acidity It is allowed to add the following materials for the purpose of acidity modification in an amount not exceeding 2 g / kg of butter

Either separately or in combination, calculated as anhydrous salts.

Sodium orthophosphate

Sodium carbonate

Sodium bicarbonate

SODUIM hydroxide

Calcium hydroxide

Fourthly :Health aspect:

1- It should be free from pathogenic germs

2- The total number of bacteria should not exceed 500 cells / g

3- The number of coliform bacteria does not exceed 10 cells / g

4- The number of yeasts and molds does not exceed 20 cells / g

5- It is free from toxins resulting from bacteria

6- The quantities of toxins produced by fungi do not exceed the internationally permitted limits

7- Pesticide residues do not exceed the internationally permitted limits