



**DEPARTMENT OF THE TREASURY
ALCOHOL AND TOBACCO TAX AND TRADE BUREAU
SCIENTIFIC SERVICES DIVISION
WASHINGTON, DC 20220**

OFFICIAL METHOD — SSD:TM:403

Calories in High Solids Distilled Spirits

Scope and Application

This method is used to determine the calorie content of distilled spirits containing solids greater than 0.6g/100mL. TTB Procedure 2004–1 requires that all Alcohol Facts Labels include a statement of average analysis for calories, fat, carbohydrate, and protein.

This method is designed to determine the calorie content of high solids distilled spirits consistent with the FDA food nutrition labeling regulation found at 21 CFR 101.9. High solids distilled spirits include liqueurs, cream liqueurs, and other distilled spirits specialties. For high solids distilled spirits the total solids may include added sugar, citric acid, extracts, colors, and other Carbon/Hydrogen/Oxygen compounds. For most products under the scope of this method, fat, and protein are not expected. However, cream liqueurs may contain milk and/or egg products, so fat and protein are not always negligible. There is no current TTB Official Method or AOAC OMA for fat in distilled spirits. Where fat is claimed, use the label claim to determine the calorie contribution from fat content.

Sugars are defined in 21 CFR 101.9 as the sum of all free mono- and disaccharides.

Regulatory Tolerances

The tolerance limits established by TTB Procedure 2004–1 are as follows:

The statement of caloric content on labels or in advertisements for alcohol beverages will be considered acceptable as long as the caloric content, as determined by TTB analysis, is within the tolerance +5 and -10 calories of the labeled or advertised caloric content. For example, a label or advertisement showing 96 calories will be acceptable if TTB analysis of the product shows a caloric content between 86 and 101 calories.

Equipment

The equipment required is determined by the methods used to determine alcohol, fat, carbohydrate, sugar, and protein content.

Reagents, Sample Preparation and Handling

The reagents, sample preparation, and handling required are determined by the methods used to determine alcohol, fat, carbohydrate, sugar, and protein content.

Procedures

1. Determine A, the alcohol content of the distilled spirits product using AOAC OMA 982.10. Convert to units of % by weight (g/100mL).
2. Determine TC, the carbohydrate content using TTB Official Method SSD:TM:407. Convert to units of g/100mL.
3. Determine P, the protein content using TTB Official Method SSD:TM:507. Convert to units of g/100mL.
4. Determine S, the sugar content in the sample using TTB Official Method SSD:TM:301. Convert to units of g/100mL.

Quality Control

The quality control measures required are determined by the methods used to determine alcohol, fat, carbohydrate, sugar, and protein content.

Calculations

$$\text{Calories /1.5 oz serving} = 0.44 \times [(6.9 \times A) + (4 \times S) + (2.4 \times (TC - S)) + (4 \times P) + (9 \times F)]$$

Where: 1.5 oz serving = 44 mL.

A = alcohol % by weight.

S = sum of sugars.

TC = total carbohydrate.

P = protein.

F = fat.

Reporting Results

Report calories to the nearest whole number, i.e. XX/1.5 fl.oz.

Safety Notes

None.

References

- *TTB Official Method SSD:TM:301*, Residual Sugars in Alcohol Beverages by HPLC
- TTB Procedure 2004–1.
- ATF Ruling 80–3.
- 21 CFR 101.9.
- A. L. Merrill and B. K. Watt, “Energy Value of Foods—Basis and Derivation,” USDA Handbook 74; (Available online at: <http://www.nal.usda.gov/fnic/foodcomp/Data/Classics/ah74.pdf>).
- Official Methods of Analysis, 17th Edition, 2002; Horowitz; AOAC International, Maryland.