Notification no. 783 dated 1st March, 1986

APPENDIX

1. Procedure for estimation of peroxide value in Roasted and Salted Cashew Kernels. Weigh 50 gms. of Cashew Kernels and Powder in Grinder.

Take the powdered material in 250 ml. stopered conical flask and add 150 ml. of chloroform, keep the flask in shaker over night. Next day the slurry is filtered in a Buchner flask under suction. The residue is then mixed with 100 ml. of chloroform and kept in a shaker for two hours and filtered. The volume of the combined chloroform extracts is than made upto 250 ml.

10 ml. each of the extract or suitable aliquot portion containing about 0.5 gm. fat is pipetted out into two previously dried and weighed smaller beakers (25 ml. capacity), chloroform is evaporated off by keeping the dishes on water bath. Then the dishes are transferred to a vacuum oven maintained at 70°C. Evaporation under vacuum is carried out for one hour. Dishes are taken out, cooled in a desicator and weighed. The dishes are again kept in the oven for 30 minutes, then taken out, cooled and weighed. This process is repeated until the difference between the two consecutive weighings is not more than 5mg.

Aliquot of the chloroform extract containing about 4 gm. of fat is taken in a 500 ml. stoppered conical flask and required quantity of glacial acetic acid 0.5 ml. of saturated potassium iodide solution is pipetted out into this and the solution is allowed to stand with occasional shaking for exactly one minute and then 50 ml. distilled water is added. Titrate this with 0.1 N. Sodium thiosulphate adding it gradually and with constant and vigorous shaking, titration is continued until the yellow colour has almost disappeared 0.5 ml. of 1 per cent starch indicator is added and the titration continued until the blue colour just disappears.

NOTE:-

1. Conduct blank determination of the reagent daily. Blank titration should not exceed 0.1 ml. or 0.1 N. Sodium thiosulphate.

2. If the colour of the solution is light yellow before the start of titration, starch indicator may be added at that stage.

3. If the titration is less than 0.5 ml. of 0.1 N. Sodium thiosulphate solution repeat the determination using 0.01 N. Sodium thiosulphate solution.

The peroxide value may be calculated as under :-
Peroxide value as milli equivalent of peroxide per 1000 g.

$$\frac{\text{fat(A-) x N x 1000}}{\text{w}}$$

Where: A = Titration of samples
B = Blank
N = Normality of thiosulphate
W = Weight of fat taken for test

2. Procedure for estimation of Free Fatty Acid. - An aliquot of the chloroform containing about 5 g. of fat is taken in a weighed conical flask. Chloroform'is evaporated-off on a water bath. Traces of chloroform is removed under vacuum in the vacuum oven. Flask is weighed with chloroform free fat.

Absolute alcohol (Distilled) is neutralised with dillute Sodium hydroxide solution using phenolpthalein as indicator. To the fat 50 ml. of hot neutralised alcohol is added and the flask is shaken well. Titrate with 0.1 N. Sodium hydroxide till a pink colour which is stable for 30 seconds appeared.

NOTE :-

If the titration is less than 0.5 ml. of 0.1 N. Sodium hydroxide solution, repeat the determination using 0.02 N. Sodium hydroxide solution.

The free fatty acid may be calculated as under:

$$\text{Free fatty acid as oleic, percentage} = \frac{\text{A x N x 28.2}}{\text{W}}$$

Where: A = ml. of the sodium hydroxide solution
N = Normality of the sodium hydroxide solution; and
W = Weight in gms. of fat taken for test.