

## B. GENERAL TESTS

### Color Value Test

The Color Value Test is designed to measure the concentration (Color Value) of a coloring matter in a food color by determining absorbance. In general, the color value is expressed as the figure ( $E_{1\text{cm}}^{10\%}$ ), when the absorbance of a food color solution is determined at the wavelength of maximum absorption in visible light region and calculated in terms of the absorbance of a 10% w/v solution.

**Procedure** Unless otherwise specified, proceed as directed below. When determining an absorbance, adjust the test solution so that the absorbance of the test solution can fall in a range of 0.3 - 0.7.

Unless otherwise specified, weigh accurately the amount of sample given in the table below that corresponds to the color value indicated, transfer to a measuring flask, dissolve in about 10 ml of the specified solvent, and add the solvent to make exactly 100 ml. Centrifuge or filter it, if necessary and use this solution as the sample solution. Dilute the solution in a dilution factor given in the same table if necessary and use this solution as the test solution.

Unless otherwise specified, determine the absorbance (A) at the specified wavelength in 1-cm cell with the solvent used for preparing the test solution as a blank. Calculate the color value by the formula below. Determination of the color value should be done promptly after the preparation of the test solution to avoid the influence of fading after preparation.

$$\text{Color value} = \frac{10 \times F \times A}{\text{amount of sample (g)}}$$

where A = Absorbance of test solution

F = Dilution factor of test solution used to adjust the absorbance so that it can fall in a range of 0.3 - 0.7.

If the color value exceeds the maximum value in the above table, adjust the dilution factor before determination.

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Color value	Concentration for measurement (%)	Absorbance	Dilution method	volume (ml) of dilution	F
20	0.025	0.5	0.25g 100ml	100	1
50	0.10	0.5	0.1g 100ml	100	1
100	0.05	0.5	0.5g 100ml 10ml 100ml	1,000	10
200	0.03	0.6	0.6g 100ml 5ml 100ml	2,000	20
400	0.015	0.6	0.3g 100ml 5ml 100ml	2,000	20
500	0.01	0.5	0.2g 100ml 5ml 100ml	2,000	20
700	0.01	0.7	0.2g 100ml 5ml 100ml	2,000	20
800	0.00625	0.5	0.25g 100ml 5ml 200ml	4,000	40
900	0.005	0.45	0.2g 100ml 5ml 200ml	4,000	40
1,000	0.006	0.6	0.3g 100ml 5ml 250ml	5,000	50
1,500	0.004	0.6	0.4g 100ml 5ml 50ml 5ml 50ml	10,000	100
2,000	0.003	0.6	0.3g 100ml 5ml 50ml 5ml 50ml	10,000	100
2,500	0.002	0.5	0.2g 100ml 5ml 50ml 5ml 50ml	10,000	100