2.2.1. CLARITY AND DEGREE OF OPALESCENCE OF LIQUIDS

VISUAL METHOD

Using identical test-tubes of colourless, transparent, neutral glass with a flat base and an internal diameter of 15-25 mm, compare the liquid to be examined with a reference suspension freshly prepared as described below. Ensure that the depths of the layers in the 2 test-tubes are the same (about 40 mm).
Compare the liquids in diffused daylight 5 min after preparation of the reference suspension, viewing vertically against a black background.

„ A liquid is considered *CLEAR* if its clarity is the same as that of water R or of the solvent used, or if its opalescence is not more pronounced than that of reference suspension I, when examined under the conditions described below.“

Primary opalescent suspension (formazin suspension): In a 100 mL ground-glass-stoppered flask, dissolve 2.5 g of hexamethylenetetramine R in 25.0 mL of water R. Add 25.0 mL of the hydrazine sulfate solution. Mix and allow to stand for 24 h. This suspension stability - 2 months.

Standard of opalescence: Dilute 15.0 mL of the primary opalescent suspension to 1000.0 mL with water R. This suspension is freshly prepared and may be stored for up to 24 h.

Reference suspension:. Prepare the reference suspensions according to table below Mix and shake before use.

	RS I	RS II	RS III	RS IV
Standard of opalescence	5.0 mL	10.0 mL	30.0 mL	50.0 mL
Water R	95.0 mL	90.0 mL	70.0 mL	50.0 mL

Principle

Formaldehyde released from methenamine reacts with hydrazine to form polycondensation products => turbidity.

2.2.2. DEGREE OF COLORATION OF LIQUIDS

The examination of the degree of coloration of liquids in the range brown-yellow-red is carried out by one of the 2 methods below, as prescribed in the monograph.

METHOD I

Using identical tubes of colourless, transparent, neutral glass of 12 mm external diameter, compare 2.0 mL of the liquid to be examined with 2.0 mL of water R or of the solvent or of the reference solution (see Tables of reference solutions) prescribed in the monograph. Compare the colours in diffused daylight, viewing horizontally against a white background.

METHOD II

Using identical tubes of colourless, transparent, neutral glass with a flat base and an internal diameter of 15 mm to 25 mm, compare the liquid to be examined with water R or the solvent or the reference solution (see Tables of reference solutions) prescribed in the monograph, the depth of the layer being 40 mm. Compare the colours in diffused daylight, viewing vertically against a white background.

„A solution is *COLOURLESS* if it has the appearance of water R or the solvent or is not more intensely coloured than reference solution B_9."

Primary solutions:

Yellow solution. Dissolve 46 g of ferric chloride R in about 900 mL of a mixture of 25 mL of hydrochloric acid R and 975 mL of water R and dilute to 1000.0 mL with the same mixture.

Red solution. Dissolve 60 g of cobalt chloride R in about 900 mL of a mixture of 25 mL of hydrochloric acid R and 975 mL of water R and dilute to 1000.0 mL with the same mixture.

Blue primary solution. Dissolve 63 g of copper sulfate pentahydrate R in about 900 mL of a mixture of 25 mL of hydrochloric acid R and 975 mL of water R and dilute to 1000.0 mL with the same mixture.

Standard solutions: Using the 3 primary solutions, prepare the 5 standard solutions as follows

Standard solution	Yellow solution	Red solution	Blue solution	HCl (10 g/L)
B (Brown)	3.0	3.0	2.4	1.6
BY (Brownish-yellow)	2.4	1.0	0.4	6.2
Y (Yellow)	2.4	0.6	0.0	7.0
GY (Greenish-yellow)	9.6	0.2	0.2	0.0
R (Red)	1.0	0.0	0.0	7.0

Reference solutions for Methods I and II: Using the 5 standard solutions, prepare the following reference solutions.

B_{1-9} BY_{1-7} Y_{1-7} GY_{1-7} R_{1-7}