

## B. GENERAL TESTS

### Turbidity Test

The Turbidity Test is designed to scientifically and objectively judge the solubility of a sample to the solvent specified in Clarity of Solution in Purity in the individual monograph. By observing the status of the solution, the characteristic properties of the substance and the existence of impurities in the substance can be easily identified.

Hereinafter in Clarity of Solution in the Monographs, such a specification as "almost clear (1.0 g, water 20 ml)" indicates that when prepared by dissolving 1.0 g of the test substance in 20 ml of water and observed, the solution is almost clear.

**Procedure** (1) Preparation of Test Solution Unless otherwise specified, prepare the solution in a Nessler tube as specified in Clarity of Solution in the individual monograph, use this solution as the test solution.

(2) Preparation of Standard Solution

*Turbidity Standard Stock Solution* Measure exactly 14.1 ml of 0.1 mol/l hydrochloric acid, and add water to make exactly 50 ml. One ml of this solution contains 1 mg of chlorine (Cl).

*Turbidity Standard Solution* Measure exactly 1 ml of the Turbidity Standard Stock Solution, and add water to make exactly 100 ml. One ml of this solution contains 0.01 mg of chlorine (Cl).

(3) Preparation of Reference Solutions

The turbidity is identified by the solutions prepared as directed below.

*Clear.* Measure 0.2 ml of the Turbidity Standard Solution, and add water to make 20 ml. Add 1 ml of diluted nitric acid (1 : 3), 0.2 ml of 2% w/v dextrin solution, and 1 ml of 2% w/v silver nitrate solution. Shake, and allow to stand for 15 minutes, protecting from direct sunlight. For solutions described as "clear," impurities such as floating substances cannot be observed practically.

*Almost clear.* Measure 0.5 ml of the Turbidity Standard Solution, and add water to make 20 ml. Add 1 ml of diluted nitric acid (1 : 3), 0.2 ml of 2% w/v dextrin solution, and 1 ml of 2% w/v silver nitrate solution. Shake, and allow to stand for 15 minutes, protecting from direct sunlight. For solutions described as "almost clear," impurities such as floating substances cannot be observed practically.

*Very slightly turbid.* Measure 1.2 ml of the Turbidity Standard Solution, and add water to make 20 ml. Add 1 ml of diluted nitric acid (1 : 3), 0.2 ml of 2% w/v dextrin solution, and 1 ml of 2% w/v silver nitrate solution. Shake, and allow to stand for 15 minutes, protecting from direct sunlight.

*Slightly turbid.* Measure 6 ml of the Turbidity Standard Solution, and add water to make 20 ml. Add 1 ml of diluted nitric acid (1 : 3), 0.2 ml of 2% w/v dextrin

## B. GENERAL TESTS

solution, and 1 ml of 2% w/v silver nitrate solution. Shake, and allow to stand for 15 minutes, protecting from the direct sunlight.

*Turbid.* Measure 0.3 ml of the Turbidity Standard Stock Solution, and add water to make 20 ml. Add 1 ml of diluted nitric acid (1 : 3), 0.2 ml of 2% w/v dextrin solution, and 1 ml of 2% w/v silver nitrate solution. Shake, and allow to stand for 15 minutes, protecting from direct sunlight.

(4) Test Unless otherwise specified, when observed from above and from the side by comparing the test solution with the reference solution, placed in a Nessler tube, with the same volume as the test solution, protecting from the sunlight, the turbidity of the test solution is not thicker than that of the reference solution corresponding to the specified term.