INTERNATIONAL STANDARD

ISO 10349-11

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Photography — Photographic-grade chemicals — Test methods —

Part 11: Determination of specific gravity

Photographie — Produits chimiques de qualité photographique — Méthodes d'essai —

Partie 11: Détermination de la densité relative

Reference number
ISO 10349-11:1992(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10349-11 was prepared by Technical Committee ISO/TC 42, *Photography*.

ISO 10349 consists of the following parts, under the general title *Photography — Photographic-grade chemicals — Test methods*:

— *Part 1: General*

— *Part 2: Determination of matter insoluble in water*

— *Part 3: Determination of matter insoluble in ammonium hydroxide solution*

— *Part 4: Determination of residue after ignition*

— *Part 5: Determination of heavy metals and iron content*

— *Part 6: Determination of halide content*

— *Part 7: Determination of alkalinity or acidity*

— *Part 8: Determination of volatile matter*

— *Part 9: Reaction to ammoniacal silver nitrate*

— *Part 10: Determination of sulfide content*

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— *Part 11: Determination of specific gravity*

— *Part 12: Determination of density*

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Photography — Photographic-grade chemicals — Test methods —

Part 11:
Determination of specific gravity

1 Scope

This part of ISO 10349 specifies a general test method for the determination of the specific gravity (relative density) of solutions used in photographic processing.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this part of ISO 10349. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 10349 are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 10349-1:1992, *Photography — Photographic-grade chemicals — Test methods — Part 1: General.*

3 Hazards

See ISO 10349-1 for general hazard warnings for the handling of chemicals.

4 Apparatus

4.1 Hydrometer, constant mass, variable-displacement calibrated hydrometer with 0,001 subdivisions at 15,6 °C (60 °F) relative to distilled water at 15,6 °C (60 °F).

NOTE 1 Most common hydrometers are calibrated for use at 20 °C. Hydrometers calibrated at other temperatures may be used with appropriate corrections. A hydrometer calibrated at 25 °C, the temperature for the determination, would be particularly convenient.

4.2 Hydrometer cylinder, clear glass vessel of approximately 250 ml capacity, cylindrical in shape and taller than the hydrometer.

4.3 Constant-temperature water-bath, with pump and heating system designed to maintain a circulating current and constant temperature (± 0,05 °C). The bath shall be deep enough to keep that part of the hydrometer cylinder which contains the sample below the surface of the water. The bath temperature shall be set at 25 °C.

5 Sampling

See ISO 10349-1.

6 Procedure

Pour a test portion of 100 ml of the test sample into the hydrometer cylinder (4.2). Place the hydrometer cylinder with the test portion in the water-bath (4.3) and allow it to equilibrate to the bath temperature. Carefully lower the appropriate hydrometer (4.1) into the cylinder and allow it to float freely.

Read the specific gravity as the division on the hydrometer scale at the bottom of the solution meniscus.

NOTE 2 To convert the specific gravity measured using a hydrometer calibrated at 15,6 °C to a specific gravity at 25 °C, divide the result by 1,001 97 (the ratio of the density of water at these two temperatures).

7 Test report

The test report shall specify the method used and the test result obtained.

It shall also mention all operating details not specified in this part of ISO 10349, or regarded as optional, together with details of any incidents which may have influenced the test result.

The test report shall include all information necessary for the complete identification of the sample.

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Descriptors: photography, photographic materials, photography, photographic chemicals, tests, determination, relative density, density measurement.

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