INTERNATIONAL STANDARD

ISO 10349-6

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Photography — Photographic-grade chemicals — Test methods —

Part 6:
Determination of halide content

Photographie — Produits chimiques de qualité photographique — Méthodes d'essai —
Partie 6: Détermination de la teneur en halogénures

Reference number
ISO 10349-6:1992(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 10349-6 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 6:
Determination of halide content

1 Scope

This part of ISO 10349 specifies a general test method for the determination of the halide content (reported as chloride ions, Cl^-) of photographic-grade chemicals.

NOTE 1 Individual International Standards may report the halide as a salt by modifying the calculation.

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 and for details of the hazard code system used in this part of ISO 10349.

4 Reagents

See ISO 10349-1 for general requirements.

4.1 Halide standard solutions

Prepare halide standard solution A and/or halide standard solution B as required for the test limits (see table 1).

4.1.1 Halide standard solution A, 0,01 mg Cl/ml.

Dissolve 1,65 g of sodium chloride, which has been dried at 105 °C for 2 h and cooled to room temperature in a desiccator, in 500 ml of water in a 1 litre one-mark volumetric flask. Make up to the mark with water and mix thoroughly. Pipette 1 ml of this solution into a 100 ml one-mark volumetric flask and make up to the mark with water. Label this solution "halide standard A".

4.1.2 Halide standard solution B, 0,001 mg Cl/ml.

Dissolve 0,165 g of sodium chloride, which has been dried at 105 °C for 2 h and cooled to room temperature in a desiccator, in 500 ml of water in a 1 litre one-mark volumetric flask. Make up to the mark with water and mix thoroughly. Pipette 1 ml of this solution into a 100 ml one-mark volumetric flask and make up to the mark with water. Label this solution "halide standard B".

4.2 Nitric acid solution (1 + 9).

Slowly add 10 ml of nitric acid, 69 % (*m/m*) (approximately) (DANGER: < C > < B > < O >), to 90 ml of water.

4.3 Silver nitrate solution, 100 g/l (DANGER: < C >).

Dissolve 10 g of silver nitrate (DANGER: < C >) in 50 ml of water and dilute to 100 ml with water.

5 Apparatus

See ISO 10349-1 for requirements for glassware.

5.1 Two matched Nessler colour-comparison cylinders, each with a capacity of 50 ml.

6 Sampling

See ISO 10349-1.

7 Procedure

Weigh a test portion of 0,9 g to 1,1 g and dissolve it in 200 ml of water in a 250 ml beaker. Take a 20 ml aliquot of this solution and place in a 100 ml beaker. Pipette the volume of halide standard A (4.1.1) or halide standard B (4.1.2) specified in table 1 (based on the appropriate test limit) into a second 100 ml beaker. To each beaker add 5 ml of nitric acid solution (4.1.2) and 1 ml of silver nitrate solution (4.3) and dilute to 50 ml with water. Transfer the treated solutions into separate 50 ml Nessler colour-comparison cylinders (5.1).

The turbidity produced in the test solution shall not exceed that produced in the halide standard for the required limit.

Table 1 — Test limits and volumes of halide standards

Test limit (as Cl) % (*m/m*)	Type of halide standard	Volume of halide standard ml
0,001 0,005 0,006 0,01	Standard B (4.1.2)	1 5 6 10
0,05 0,06 0,1 0,2 0,3	Standard A (4.1.1)	5 6 10 20 30

8 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, photographic chemicals, tests, chemical analysis, determination of content, halides, comparison analysis.

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