

# INTERNATIONAL STANDARD

**ISO**  
**11050**

First edition  
1993-07-01

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## **Wheat flour and durum wheat semolina — Determination of impurities of animal origin**

*Farines de blé tendre et semoules de blé dur — Détermination des  
impuretés d'origine animale*



Reference number  
ISO 11050:1993(E)

## Foreword

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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 11050 was prepared by Technical Committee ISO/TC 34, *Agricultural food products*, Sub-Committee SC 4, *Cereals and pulses*, in collaboration with the International Association for Cereal Science and Technology (ICC).

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International Organization for Standardization

Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

# Wheat flour and durum wheat semolina — Determination of impurities of animal origin

## 1 Scope

This International Standard specifies a method for determining the content of impurities of animal origin in wheat flours, with or without additives and having an ash yield not exceeding 0.63 % (*m/m*), and in durum wheat semolinas.

This method permits the separation and quantification of contamination of animal origin, e.g. insects at all stages of their development, insect fragments, mites and their fragments, and rodent hairs and their fragments.

## 2 Definition

For the purposes of this International Standard, the following definition applies.

**2.1 impurities of animal origin:** Matter of animal origin (eggs, larvae, nymphs or adults of insects and their fragments, rodent hairs and their fragments, mites and their fragments) separated from the product under the conditions specified in this International Standard.

## 3 Principle

Hydrolysis of a test portion with a solution of hydrochloric acid at boiling point. Concentration of the insoluble particles (impurities other than those of animal origin may be present) at a water/hydrocarbon interface. Separation by filtration on a filter paper or membrane, microscopic examination, and counting under reflected light, of the impurities of animal origin.

## 4 Reagents

Use only reagents of recognized analytical grade and distilled or demineralized water or water of equivalent purity.

All the reagents used shall be filtered carefully before use or after their preparation. Such filtration may be performed using a filter cloth with a maximum mesh size of 10 µm to 30 µm and which is resistant to acids and solvents (of the nylon or polyethylene fibre type).

**4.1 Ethanol or methanol**, 95 % (*V/V*).

**4.2 Ethanol or methanol solution**, 50 % (*V/V*).

**4.3 Ethanol/glycerol**, 1 + 1 mixture by volume.

**4.4 Hydrochloric acid solution**, concentrated ( $\rho_{20} = 1,18$  g/ml).

**4.5 Paraffin oil** (known as "Vaseline oil"), fluid, having a viscosity not exceeding 60 mPa·s (60 cP) at 20 °C.

**4.6 Liquid detergent**, non-foaming.

**4.7 Liquid detergent**, 1 % (*V/V*) solution of the detergent (4.6) in a washing bottle.

## 5 Apparatus

Usual laboratory apparatus and, in particular, the following.

**5.1 Separating funnels**, conical, of 1 000 ml capacity, fitted with a non-lubricated tap with a flexible tube and a Mohr clip (rubber-tube clip) (see the recommended set-up shown in figure 1).

**5.2 Tall-form beaker**, of 800 ml capacity, fitted with a watch glass made of pyrex and of appropriate dimensions to serve as a lid.

**5.3 Crystallizing dish or pan**, of at least 5 litre capacity, and of a height slightly less than that of the beaker (5.2), suitable for use as a cooling bath.