International Standard 6486/2

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Ceramic ware in contact with food — Release of lead and cadmium — Part 2 : Permissible limits

Articles en céramique en contact avec les aliments — Émission de plomb et de cadmium — Partie 2 : Limites admissibles

First edition — 1981-08-01

UDC 642.72 : 666.5 : 614.3 **Ref. No. ISO 6486/2-1981 (E)**

Descriptors : ceramics, earthenware, tableware, chemical analysis, determination of content, toxic substances, lead, cadmium, composition tolerances.

Price based on 2 pages

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 6486/2 was developed by Technical Committee ISO/TC 166, *Ceramic ware, glassware and glass ceramic ware in contact with food*, and was circulated to the member bodies in June 1979. It results from division into two parts of ISO/DIS 6486.

It has been approved by the member bodies of the following countries :

Austria	Japan	South Africa, Rep. of
Brazil	Korea, Rep. of	Thailand
Canada	Philippines	United Kingdom
Israel	Poland	USA
Italy	Romania	

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Czechoslovakia
Denmark
Germany, F. R.*
Ireland

* Germany, F. R. disapproved only the permissible values 1,7 and 0,17 mg/dm^2 for lead and cadmium of flatware, because of the expected Directive of the European Communities in this field.

Printed in Switzerland

Ceramic ware in contact with food — Release of lead and cadmium — Part 2 : Permissible limits

0 Introduction

The problem of lead and cadmium release from ceramic ware requires effective means of control to ensure the protection of the population against possible hazards arising from the use of improperly formulated, applied and fired glazes and decorations on the food contact surfaces of ceramic ware used for the preparation, serving and storage of food and beverages. As a secondary consideration, different requirements from country to country for the control of the release of toxic materials from the surfaces of ceramic ware present non-tariff barriers to international trade in these commodities. Accordingly, there is a need to establish internationally accepted methods of testing ceramic ware for lead and cadmium release, and to define permissible limits for the release of these toxic heavy metals.

An expert panel convened by the World Health Organization (WHO) met in Geneva, in June 1976, and recommended the adoption of sampling methods, testing procedures and limits for the release of toxic materials from ceramic ware. A further meeting was convened by WHO in November 1979. The permissible limits specified in this International Standard are based on the WHO recommendations.[1, 2, 3, 4, 5] As the capability of the industry increases, efforts will be made to reduce these limits for lead and cadmium release.

1 Scope

This part of ISO 6486 specifies permissible limits for the release of lead and cadmium by ceramic ware intended for use in contact with food, for example ceramic ware made of china, porcelain, and earthenware, whether glazed or not, but excluding glass, glass ceramic and porcelain enamelled articles.

ISO 6486/1[1)] specifies a method of test for the release of lead and cadmium by ceramic ware which may be used in contact with food.

2 Field of application

This part of ISO 6486 is applicable to ceramic ware intended to be used for the preparation, serving and storage of food and beverages, excluding articles used in food manufacturing industries. Ceramic ware for packaging is also excluded, except when the ware is intended to be retained and used by the purchaser as ceramic ware as defined in this part of ISO 6486. Ceramic ware as defined in this part of ISO 6486 and excluded from its scope should comply with extraction limits that are no less strict than those for similar articles used in the home or in eating establishments, but it may be necessary for stricter standards to apply, such as statutory limits for contaminants in food for sale. (It must be stressed that compliance with the specified extraction limits is not an alternative to compliance with such statutory limits for food.)

3 Definitions

For the purpose of this part of ISO 6486, the following definitions apply.

3.1 ceramic ware : Ceramic articles intended for use in contact with foodstuffs, for example foodware made of china, porcelain and earthenware, whether glazed or not.

3.2 flatware : Ceramic ware having an internal depth not exceeding 25 mm, measured from the lowest point to the horizontal plane passing through the point of overflow.

3.3 hollow-ware : Ceramic ware having an internal depth greater than 25 mm, measured from the lowest point to the horizontal plane passing through the point of overflow.

Hollow-ware may be termed large or small according to its capacity as follows :

a) large hollow-ware : hollow-ware with a capacity of 1,1 litres or more;

b) small hollow-ware : hollow-ware with a capacity of less than 1,1 litres.

4 Permissible limits

The permissible limits for lead and cadmium release from any individual article, when determined by the method described in ISO 6486/1, shall not exceed the values given in the following table.

Type of ceramic ware	Unit	Lead	Cadmium
Flatware	mg/dm^2	1,7	0,17
Small hollow-ware	mg/l	5,0	0,50
Large hollow-ware	mg/l	2,5	0,25

1) ISO 6486/1, *Ceramic ware in contact with food — Release of lead and cadmium — Part 1 : Method of test.*

Bibliography

[1] *Proceedings, International Conference on Ceramic Foodware Safety,* pp. 8-17, 1975, Lead Industries Association Inc., 292 Madison Avenue, New York, N.Y. 10017, USA.

[2] WHO Food Additives Series No. 4, 1972.

[3] WHO Technical Report Series No. 505, 1972.

[4] WHO/Food Additives 77.44. *Ceramic Foodware Safety, Sampling, Analysis and Limits for release* (Report of a WHO Meeting, Geneva, 8-10 June 1976).

[5] WHO/Food Additives HCS/79.7. *Ceramic Foodware Safety, Critical Review of Sampling, Analysis, and Limits for Lead and Cadmium Release* (Report of a WHO Meeting, Geneva, 12-14 November 1979).