

# ZINC

## **1. Scope**

This section deals with materials and objects made exclusively of zinc which as finished products are intended to be in direct contact with foodstuffs, food products and beverage for human and animals consumption, and for repetitive usage.

The objects coated in zinc mentioned in the sheet "Steel and stainless steel with metallic coating (excluding packaging)" are not concerned.

The main application examples are three following elements:

- Household articles: measuring instruments etc.;
- Equipment for agri-food industry: measuring instruments, chocolate products, confectionary etc.

## **2. Restriction of use for materials**

- It is prohibited to put any drink or foodstuff intended for food use in direct contact with zinc, excepted manufacturing or preserving chocolate products and confectionary which do not contain liquid acid substances and for distillery operations.
- Use limited to the scope.

Any other use, a request for authorisation must be made to the DGCCRF accompanied by documentation proving inertia in the scope considered.

## **3. Definitions of performance criteria for food contact**

### **3.1 Text to be used**

#### **3.1.1 Regulatory texts**

- *Order of 28th June 1912* relating to coloration, conservation and packaging of foodstuffs and drinks
- *Order of 15th November 1945* setting the list of materials likely to be used without adverse effect on public health in the manufacturing of measuring instruments.

### **3.2 Criteria to be used**

#### **3.2.1 Composition of zinc**

Check zinc content: Zn > 99.85%.

#### **3.2.2 Content of undesirable elements**

Looking for the presence of lead, cadmium and arsenic.

#### **3.2.3 Specific migration of Zn**

## **4. Acceptability limits**

### **4.1 Maximum content in undesirable elements**

Pb  $\leq$  0.05%

Cd  $\leq$  0.010 %

As  $\leq$  0.030 %

### **4.2 Specific Migration Limits**

Specific migration of Zn: 10 mg/kg

## **5. Rules to check the criteria defined in paragraph 3.**

- Test conditions according to directives 82/711 and 85/572 and their amendments (order of 16/05/1994):
  - Temperature and contact duration
- Simulator liquids chosen according to the use:

Foodstuff	Simulator Liquid
Aqueous food (pH>4.5)	Distilled water or water of equivalent quality
Acid food (pH $\leq$ 4.5)	Outside area of applicability
Alcoholic food	Ethanol at 10% (v/v). This concentration should be adapted according to the alcoholic content of the food if it exceeds 10% (v/v).
Fatty food (Hot use)	Oil or substitute simulator at 100°C for 2 hours
Dry food	No migration test

For all objects which cannot be filled, the surface/volume ratio adopted by convention is 6 dm<sup>2</sup> for 1 kg or 1 l of simulator.