



## EUROPEAN COMMISSION

DIRECTORATE GENERAL XI  
ENVIRONMENT NUCLEAR SAFETY AND CIVIL PROTECTION  
Industry and environment  
**Industrial installations and emissions**

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M 232

### **STANDARDIZATION MANDATE TO CEN FOR THE DETERMINATION OF THE TOTAL EMISSIONS OF SOME HEAVY METALS AND METALLOIDS TO THE AIR.**

#### **I. MOTIVATION:**

Waste incineration plants have - besides their emissions of dioxins, dibenzofurans and mercury - a particular importance because of their emissions of other heavy metals and metalloids into the air. Varying proportions of these heavy metals are found in a gaseous and particulate form in these emissions. In order to limit these emissions the Council adopted in its Council Directive 94/67/EC, on the incineration of hazardous waste, limit values for the emission of some heavy metals, which include cadmium (Cd), thallium (Tl), antimony (Sb), arsenic (As), lead (Pb), chromium (Cr), cobalt (Co), copper (Cu), Manganese (Mn), Nickel (Ni), Vanadium (V) and tin (Sn), in their particulate, gaseous and vapour forms as well as their compounds. The emission limit values must be respected in all average values over a sample period of a minimum of 30 minutes and a maximum of eight hours.

The Community legislation on incineration of municipal waste incineration in force, Council Directive 89/369/EEC, on the prevention of air pollution from new municipal waste incineration plants, includes emission limit values to reduce the release of some heavy metals to the air, which are Pb, Cr, Cu, Mn, Ni, As and Cd.

The Commission is working on a proposal for a Council Directive on incineration of non-hazardous waste. This proposal will also include emission limit values for heavy metals to the air.

Emission limit values are set for a group of heavy metals rather than for each individual one (e.g. Tl + Cd in Directive 94/67). In the Directives different groups of heavy metals are formed. As a consequence of this situation it is necessary to have a standardized measurement method where all heavy metals, which are emitted into the air, can be determined separately. Heavy metals are emitted to the air in particulate form, in gaseous form and in the form of compounds. So the determination of each individual heavy metal must include all these forms to give a total amount of this heavy metal. The method will be designed for periodical measurements which should take as a rule 30 minutes of sampling time and shall not exceed eight hours.

Within the Community there are only national standards for the measurement of some of these heavy metals. The above mentioned directives and the future proposal for a directive on incineration of non-hazardous waste require the use of the standard for the measurement of these heavy metals emitted to the air. The availability of a standard is a fundamental condition for the efficient implementation and enforcement of the Directives. The future standard should also be applicable to measurements at other plants, like large combustion plants.

## **II. DESCRIPTION OF THE MANDATED WORK:**

1. The Commission entrusts CEN with the following work:

Preparing a standard for a manual measurement method allowing the separate determination of the total emission to the air of each of the following heavy metals cadmium (Cd), thallium (Tl), antimony (Sb), arsenic (As), lead (Pb), chromium (Cr), cobalt (Co), copper (Cu), manganese (Mn), nickel (Ni), vanadium (V) and tin (Sn), including their particulate, gaseous and vapour forms as well as their compounds in the range of 0.02 to 5.0 milligrams per m<sup>3</sup>.

The standard is to cover:

- field of application;
  - basic principles of the procedure;
  - equipment and accessories;
  - reference material requirements;
  - design and operation of the sampling equipment;
  - sampling and analysis procedure;
  - calibration and verification of the analytical function;
  - calculation of results and errors;
  - performance characteristics;
  - interferences;
  - quality assurance measures.
2. The Commission recommends CEN to take account, as much as possible, of standards or rules currently available in this area at a national or international level.
  3. On request of the Commission CEN may give a research work to a appropriate laboratory in order to elaborate a measurement method for tin (Sn), which will be then included into the standard.

## **III. EXECUTION OF THE MANDATE:**

1. CEN will present the draft standard (prEN) to the Commission before 12.1998.

2. The European standard (EN) will be adopted before 08.2000. At this date, the three linguistic versions (DE, EN, FR) will be available as well as the correct titles in the other Community languages.
3. Within six months of its adoption, the harmonised standard (EN) will be transposed into a national standard and all the different national standards of the Member States of the Community will be withdrawn.
4. With the acceptance by CEN of this order the transitional period addressed in Article 7 of Directive 83/189/EEC of 28 March 1983 (OJ L109 of 26 April 1983) will begin.
5. The Commission reserves the possibility of specifying more precisely, if necessary, the essential requirements in function of the final version of Council Directive on incineration of non-hazardous waste and of future modifications of Council Directive on incineration of hazardous waste. The present order may be modified by common agreement if that proves to be necessary during the course of the work.
6. CEN will present a report, at least once a year, on the progress of the work