

# **Preface**

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Authors:

D. Lux  
E. Kabai

Federal coordinating office for medicinal products, their raw  
products and commodities  
(Leitstelle für Arzneimittel und deren Ausgangsstoffe  
sowie Bedarfsgegenstände)

## Preface

The monitoring of specific activities of radionuclides in tobacco products, medicinal products and their raw materials, as well as commodities is regulated by the Precautionary Radiation Protection Act (StrVG) of 19 Dec. 1986. This law intended to include also those exposure paths and product groups that were not or only partially covered by the legislation under which the Coordinating Offices were operating. An amendment to the StrVG of 08 Apr. 2008 later excluded tobacco products from the monitoring of radioactivity in the environment.

Tobacco and medicinal plants represent only a small portion of plant products to be monitored and therefore should not be considered isolated, but rather in conjunction with all other vegetation samples.

### **1 Tobacco products**

The measurement of specific activities in dried raw tobacco is a suitable approach to record possible radioactive contaminations of tobacco products including their spatial extent and temporal courses. For this purpose, (fresh) tobacco leaves from fixed sampling sites if possible domestic production or imported raw tobaccos are to be analysed. Measuring specific activities in ready-to-smoke tobacco provide little information, as these will typically be a mixture of products with different origins and years of harvest.

### **2 Medicinal products and their raw substances**

This product group is defined by the Medicinal Products Act (The Drug Law) ("Arzneimittelgesetz", AMG). Medicinal products and their raw materials of plant or animal origin are of particular interest for monitoring radioactivity in the environment. As far as the contamination of animal products is concerned – also with regard to essential commodities – the measurements taken in the framework of analysing foodstuffs provide adequate information.

Irrespective of the small amounts consumed, the monitoring for possible contamination of these products is expected, as plant-based medicinal products are favored by special groups such as pregnant women, nursing mothers, and babies. Monitoring routinely all plant-based raw products is not adequate owing to the multitude of species involved and small amounts consumed. However, for those imported plants that account for most of the raw material used for manufacturing medicinal products, routine monitoring within the framework of measuring programmes of the StrVG is scheduled.

In the framework of special measuring programmes of the Coordinating Office potential accumulations of radionuclides during the manufacture of medicinal products are investigated, and random measurements are performed if the contamination of certain plants or products is suspected.

### 3 Commodities

Commodities in the sense of the law are objects that come into contact with foodstuffs or the human body such as, e. g., wrappings and containers for foodstuffs, objects used for personal hygiene, cosmetics, cleaning and care products, clothing, toys etc. The contamination of these products can lead to radiation exposure of humans via direct radiation, through contact with the skin, or indirectly, by contaminating foodstuffs. In contrast to the environmental sectors monitored in the framework of the StrVG, commodities are typically industrial products marked by their diversity of items and materials. They may be contaminated with radionuclides via direct deposition onto their surfaces (e. g., toys left outside) or through contamination of the raw materials used for their manufacture. Approximate information on the extent of direct deposition is obtained by inference from measuring air and precipitation whereas nuclide-specific measurements of the raw materials should be taken only if, e. g., the measurements of other Coordinating Offices for the Monitoring of Environmental Radioactivity indicate a reasonable evidence of contamination. Consequently, the routine monitoring of essential commodities is not necessary. If required items and measuring techniques may be defined depending on the event in cooperation with the competent Coordinating Office.