

**Radioanalytical Working Methods for Pharmacists
Lecture (#53451) and Practical (#53451 A)
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There is a multitude of applications radio labelled compounds in life sciences. The benefits of applying radionuclides face the risks of the exposure of ionizing radiation. The purpose of radiation protection is to protect man and the environment from the harmful effects of ionizing radiation. Every scientist who practices radioactive containing material as a working method must accept responsibility caused by the double-sided character of radioactivity. The content of the lecture and practical can be summarized as follows:

A. Introduction

1. General Aspects
2. Unsealed Radioactive Substances
3. Sealed Radioactive Substances
4. Neutrons
5. X-Radiation
6. Key Aspects

B. Production of Radionuclides and Radiolabeled Compounds

C. Radioactivity

1. Stability of the Atomic Nucleus
2. Principles of the radioactive decay
3. Modes of Decay and Nuclear Radiation

D. Radiation Exposure

1. Effects of ionizing radiation on the human body
2. Terms of Dose
3. Naturally Caused Radiation Exposure of Human

E. Legal Foundations of Radiation Protection

1. The double-sided character of radioactivity
2. The Radiation Protection Law (RPL)
3. The Development of the Radiation Protection Ordinance
4. The Radiation Protection Ordinance (RPO)
5. Important Content of the RPO
6. Selected sections of the RPO

F. Methods of Detection of Nuclear Radiation

1. Single Nuclide Determination
2. Multi Nuclide Determination
3. Determination of Activity
4. Methods of Radiation Detection Measurement
5. Spectrometric Methods
6. Methodes of Imaging

G. Practical

(Obligatory to persons being intended for performing tasks within radiation protection areas of the Faculty of Chemistry and Pharmacy of the University of Regensburg)