

## 10.1. INTRODUCTION

### 10.1.1.11. *Glove box*

A closed box having polymer gloves and viewing ports that is used to enclose completely radioactive materials whilst being manipulated.

### 10.1.1.12. *Gray (Gy)*

The SI unit of absorbed dose. [SI unit = 1 J kg<sup>-1</sup>. It replaces the rad.]

### 10.1.1.13. *Half life*

The period of time in which half the nuclei in a given sample of a particular radionuclide undergo decay.

### 10.1.1.14. *Internal radiation*

Radiation received from the body from sources within the body.

### 10.1.1.15. *Irradiating apparatus*

Apparatus capable of producing ionizing radiation.

### 10.1.1.16. *Leakage radiation*

All radiation except the useful beam coming from within a protective housing.

### 10.1.1.17. *Licensable quantity*

The amount of any radionuclide or mixture thereof that is permitted under statutory regulations.

### 10.1.1.18. *Maximum permissible concentration*

The concentration of a radionuclide in the air when breathed or water when ingested that would result in an individual receiving the maximum permissible dose (to the whole body or to a specific organ depending on the radionuclide in question).

### 10.1.1.19. *Natural background*

Ionizing radiation received by the body from natural sources (cosmic radiation or naturally occurring radionuclides).

### 10.1.1.20. *Non-stochastic effects*

Effects on a biological system in which the severity of the effect varies with the dose and for which a threshold is likely to occur.

### 10.1.1.21. *Nuclide*

A species of atom characterized by the number of protons and neutrons in its nucleus.

### 10.1.1.22. *Occupied area*

An area that may be occupied by personnel and where a radiation hazard may exist.

### 10.1.1.23. *Protective housing*

A housing of an X-ray tube or of a sealed source intended to reduce the leakage radiation to a specified level.

### 10.1.1.24. *Quality factor (QF)*

A non-dimensional factor used to reduce the biological effects of radiation to a common scale (see Table 10.1.3).

### 10.1.1.25. *Radiation laboratory*

A laboratory in which irradiating apparatus or sealed radioactive sources are used or stored. It does not contain any unsealed radioactive material.

### 10.1.1.26. *Radioactive contamination*

The contamination of any material, surface or environment, or of a person by radioactive material.

### 10.1.1.27. *Radioactive material*

Any substance that consists of, or contains any, radionuclide provided that the activity of such material is greater than 0.1 Bq kg<sup>-1</sup>.

### 10.1.1.28. *Radioisotope laboratory*

A laboratory in which unsealed radioactive material is used or stored. It does not contain any irradiating apparatus.

### 10.1.1.29. *Radiological hazard*

The potential danger to health arising from exposure to ionizing radiation.

### 10.1.1.30. *Radiological laboratory*

A laboratory in which unsealed radioactive material and/or sealed radioactive material or irradiating apparatus is used or stored.

### 10.1.1.31. *Radionuclide*

Species of atom that undergoes spontaneous nuclear transformation with consequent emission of corpuscular and/or electromagnetic radiations.

### 10.1.1.32. *Radiotoxicity*

The toxicity attributable to ionizing radiation emitted by a radionuclide (and its decay products). It is related to both radioactivity and chemical effects.

### 10.1.1.33. *Sealed source*

Any radioactive material firmly bonded within metals and sealed in a capsule or similar container of adequate mechanical strength so as to prevent dispersion of the active material into its surroundings under foreseeable conditions of use and wear.

### 10.1.1.34. *Sievert (Sv)*

The SI unit for dose equivalent.

### 10.1.1.35. *Stochastic effects*

Effects on a biological system in which the probability of an effect occurring rather than its severity is regarded as a function of dose without threshold.

### 10.1.1.36. *Unsealed source*

A source that is not a sealed source and that can produce contamination under normal conditions.