

## Difference between Radiation and Radioactive Materials

**Radiation**

**Radioactive materials**

This liquid **has radioactivity**, the ability to emit radiations.

**Radiation**

**Radioactive materials**

If **radionuclides** are incorporated into the body, they will be partly removed outside the body (excreted) or be transferred to particular organs/tissues.

**Radiation** itself does not remain in the body.

Radioactive materials are materials that emit radiation. For example, the term is used as follows: "This water contains radioactive materials." Although the term "radioactivity" is sometimes used in the meaning of radioactive materials, in the field of natural sciences, the term only refers to the ability to emit radiation.

If a sealed container contains water with radioactive materials, radiation may leak from the container, but radioactive materials do not come out. If a container without a lid contains water with radioactive materials, there is a possibility that radioactive materials may spread due to spilling, etc.

Radioactive materials incorporated into the body may remain in the body for a certain period of time and move between organs but some of them are excreted or lose radioactivity as a result of emitting radiation. Effects of radiation may partially remain in cells but radiation itself does not remain in the body. Health effects of radiation are detailed in Chapter 3.

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