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Dosimetry and Process Control for Using Low Energy Electron Beams for Sterilization or Decontamination of Surfaces

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Low energy electron beams (100-200 keV) are used for sterilization or microbiological decontamination of surfaces in the medical device and pharmaceutical industry. This paper describes dosimetry methods used for validation and routine process control of these processes.
Dosimetry methods employed in high energy e-beam or gamma sterilization cannot be used at low energy e-beam, where the accelerated electrons are stopped within the dosimeter, and special methodology has been developed for this purpose. It is described how measurement traceability is maintained for dose measurement at low energy electron irradiation, and an uncertainty budget is also developed and described.
The basis for establishing a maximum acceptable dose and a dose needed for an effective process is given as well.

Country/Organization invited to participate

Denmark

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