**DISPOSITIVO DOSIMETRICO 3D E METODO DOSIMETRICO PER IL SUO USO**

Innovative dosimetric 3D system

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**Category:** Life Sciences  
**Patent Ownership:** UNIVERSITA’ DI TRIESTE, UNIVERSITA’ DELLA CALABRIA  
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<th>Brief description</th>
<th>Applications</th>
<th>Potential market</th>
<th>Development status</th>
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<td>The present invention relates to a 3D dosimeter that uses a newly developed material and to a method for using such a device for the verification of the dose delivered in radiotherapeutic medical applications and for quality controls of the radiation beams by means of the electron paramagnetic resonance (EPR) reading of the radioinduced signal.</td>
<td>Clinical dosimetry in modern radiation therapy</td>
<td>Companies in the medical radiation detection, monitoring, and safety market</td>
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**Innovative aspects and main advantages**

The dosimetric material consists of a microporous polymeric matrix of alginate that incorporates nanometric hydroxyapatite crystals. The material has been synthesized for tissue engineering applications. It is proposed for the first time for use in the physical dosimetry of radiation beams. This dosimetric device is more appropriate to the specific characteristics of lung tissue and other low-density biological tissues. The material proposed is an extended and self-supporting material allowing a 3D recording of the radiation dose.