



The Wrist Dosimeter

The wrist dosimeter is an additional dosimeter designed for measuring exposure of the extremities to X-ray, beta and gamma ionising radiation. It is highly recommended to wear the wrist dosimeter when forearms are in the immediate proximity of radiation sources or in the pathway of radiation beams.

In compliance with the regulations in force, wearing the wrist dosimeter avoids exceeding the exposure limits for skin and extremities.

The wrist dosimeter is an essential device for dose monitoring in the medical, industrial and research sectors.

This specific dosimeter uses the thermoluminescent dosimetry (TLD) technology.

Principle of thermoluminescence

Luminescence describes all physical light-emitting processes.

In the case of TLD wrist dosimeters, the luminescence is induced by lithium fluoride crystals. Ionising radiation (X-ray, beta or gamma rays) rips electrons from the structure of the detector. These electrons are then trapped by impurities contained in the crystal. When placed under a heat source, these electrons break free and, as they become de-energized, emit a luminescence that can be measured and is proportional to the received dose.

The detector used is an MTS7 (LiF:Mg,Ti) detector. It is a round disk with a diameter of 3.6mm and with a thickness of 0.36 mm.

The detector is sealed inside an aluminium card that has a barcode to ensure traceability of the dosimeter throughout use.

A HIGH-PERFORMANCE DOSIMETER

- Measuring photons and beta radiation
- Dose measurement limit of 0.10 mSv
- Totally leaktight for cold sterilisation
- Lightweight (4g) and slim (2.2mm)



IRSN Certified Quality
Management System

Contact

Simon TOURARD
Email: dosimetre@irsn.fr
Tel.: +33(0)1 30 15 52 22

Presentation of the TLD wrist dosimeter

This dosimeter comes ready to use in a sealed plastic pouch. It is compatible with most cold sterilisation protocols.

The soft wristband supplied with the dosimeter when first delivered fits all wrist sizes. Additional wristbands can be obtained upon request from our customer service office.



Every TLD card is identified by a unique number

A lightweight and ergonomic dosimeter

Technical characteristics

- Type of detector: _____ TLD MTS-700
- Size of detector: _____ diameter 3.6 mm; thickness: 0.36 mm
- Measured value: _____ Hp(0.07)

Radiation	Energy range	Dose range
Photons	15 keV to 1.25 MeV	100 µSv to 50 Sv
Beta	> 250 keV	500 µSv to 50 Sv
Beta	> 400 keV	100 µSv to 50 Sv

The TLD wrist dosimeter may also be used in combination with a special detector (PN3+) for neutron radiation.

Address

IRSN
Laboratoire de Dosimétrie
31 rue de l'Écluse
78294 Croissy/Seine cedex

Head office

IRSN
31 Av. de la Division Leclerc
92260 Fontenay-aux-Roses
Switchboard: +33(0)1 5835 8888