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IRSN DOSIMÉTRIE
INSTITUT DE RADIOPROTECTION ET DE SÛRETÉ NUCLÉAIRE

PASSIVE DOSIMETERS FOR WORKSTATION STUDIES

USE DEDICATED DOSIMETERS WHICH ADAPT TO YOUR SPECIFIC SITUATIONS TO CONDUCT EFFECTIVE WORKSTATION AND AREA STUDIES

As a radiation protection officer you conduct dosimetric tests on workstations to precisely define workers' level of exposure to ionising radiation. IRSN helps you to do this by offering a range of tailored services and dosimeters.

ADVICE FROM AN EXPERT: THE IMPORTANCE OF THE CONTROL DOSIMETER

Background noise from natural environmental radioactivity can vary significantly from one place to another.

It is essential that it is taken into account in workstation studies where the doses to measure are often small and the recording thresholds very low.

Depending on the expected dose level, one or several control dosimeters must be used to improve the interpretation of «workstation study» dosimeter results.

Contact us with any questions
dosimetre@irsn.fr

SPECIFIC CHARACTERISTICS OF WORKSTATION STUDY DOSIMETERS:

Dosimeters for workstation studies differ from regular monitoring dosimeters (environmental or personal) in the following ways:

- **No recording threshold:** the results are provided from the first microsievert measured.
- **No background noise removal:** the control dosimeter analysis results enable you to interpret your results in a fully autonomous way (the control dosimeter is systematically supplied with workstation study dosimeters).
- **Can be used at your convenience** for 6 months from delivery.

RPL: RADIOTHERMOLUMINESCENT DOSIMETRY

These dosimeters are suitable for radiological area studies and for assessing personal whole-body exposure.

They are used to obtain information about the radiation type, energy and conditions.

TLD: THERMOLUMINESCENT DOSIMETRY

These detectors are particularly suited to assessing exposure in the extremities and eye lens:

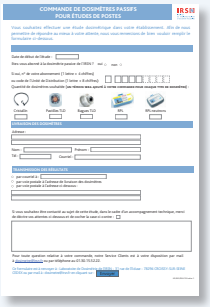
- The chemical composition of the detectors is very close to «tissue equivalence».
- The dosimeters can conduct localised measurements due to their small dimensions.
- They are ergonomic and can easily be run across the skin.

These dosimeters work using the physical properties of lithium fluoride.

Some of the energy emitted by ionising radiation is stored by the detector and released in the form of light when heated. The quantity of light emitted in specific heating conditions is proportional to the dose received.

YOUR WORKSTATION STUDY IN 4 STEPS

1. Define the workstation study protocol
2. Complete and submit the workstation study dosimeter request form. Request the form by sending an e-mail to **dosimetre@irsn.fr**
3. Take delivery of the dosimeters with the **«WORKSTATION STUDY DOSIMETERS - PRIORITY HANDLING»** return label and the return slip which needs to be completed
4. At the end of the study, attach the return label to the parcel and return the dosimeters to the lab along with the completed return slip.



› *Dosimeter request form for workstation study*

› *Workstation study dosimeter return label.*

*L'IRSN met à votre disposition **un Guide pratique** pour la réalisation des études dosimétriques de poste de travail présentant un risque d'exposition aux rayonnements ionisants. À télécharger sur : **irsn.fr** ou sur **dosimetre.irsn.fr***

TLD chips - TLD (thermoluminescence) technology for detecting X, γ and ß radiation

Detector dimensions: ø 3 mm / Packaged in a plastic case: 10 x 10 mm.
Recording threshold: from the first µSv measured.
Quantity measured: Hp(0.07)
Application: extremities/skin dosimetry
Use: in its plastic case, stuck to the skin with an adhesive. Traceability is guaranteed by an identification number on the detector. Cold decontamination in the case is possible. Examples of **Application:** nuclear medicine / operating room / interventional radiology / cardiology / industry.

TLD rings - TLD (thermoluminescence) technology for detecting X, γ and ß radiation

Ring dimensions: ø 12 mm / detector: ø 3 mm.
Recording threshold: from the first µSv measured.
Quantity measured: Hp(0.07)
Application: finger dosimetry.
Use: flexible ring that can be adjusted to fit all finger sizes. Laser identification on the ring, cold decontamination is possible.
Examples of application: operating room / interventional radiology / cardiology / industry.

DOSIRIS crystalline lens - TLD (thermoluminescence) technology for detecting X, γ and ß radiation

Holder dimensions: ø 11 mm / thickness: 8 mm / detector: ø 3 mm.
Recording threshold: from the first µSv measured.
Quantity measured: Hp(3)
Application: eye lens dosimetry.
Use: 3-way adjustable head strap with identification label, cold decontamination is possible.
Examples of application: operating room/ interventional radiology / cardiology / industry.

RPL - TLD (radio-photoluminescence) technology for detecting X, γ and ß radiation

Dosimeter dimensions: 29 X 61.5 mm
Recording threshold: from the first µSv measured.
Quantities measured: H*(10), Hp(10) and Hp(0.07).
Applications: area dosimetry, whole body dosimetry.
Use: ready-to-use unit with fitting system
Examples of application: area studies/technical environmental test/whole-body dosimetric study.

PL Neutron - RPL technology + CR39 (solid-state nuclear track detection) for detecting X, γ and ß radiation, thermal neutrons and fast neutrons

Dosimeter dimensions: 70 X 70 mm
Recording threshold: 100 µSv
Quantities measured: H*(10), Hp(10) and Hp(0.07)
Applications: area dosimetry, whole body dosimetry
Use: ready-to-use unit with fixing system
Examples of application: area studies/technical environmental test/whole-body dosimetric study.

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