

Imitant of contamination with radioactive isotope RADIM



Use

Imitant of contamination with radioactive isotope RADIM is designed for the second stage of training. The imitant shows properties of real radioactive fallout or contamination, but the short half-life of the used isotope makes unwanted environmental contamination impossible. The trainees have to be skilled in taking of skimming samples and their evaluation. Additionally they have to understand the use of radio-dozimetric means and have to fulfil other qualifications mentioned in the **Instructions for use of imitating agents of the Radim type**. The training with the imitant Radim follows once the training with imitating agents of the first stage is passed out.

The imitant is applied by spraying and then it is let get dry. The occurrence of the imitating agent (radionuclide) on the surface is demonstrated directly by radio-dosimetric equipmen or by taking of skimming samples, using moistened tampon, that is subsequently analysed by radiodosimetry.



Health risk

The imitant is an **open radioactive source** by course of law 18/1997 Coll. of Czech Republic as subsequently amended (the so-called the Atomic Act, compatible with equivalent European legislation). The activity of the isotope is so low that the Atomic Act poses only basic restrictions



for work with it. Even though, all the trainees have to be instructed about the risk connected with the use of radioactive materials before the beginning of the training.



Health protection

The training with use of the imitant Radim can be carried out if some basic requirements of the State Office for Nuclear Safety are adopted and at presence of authorised person.

Always wear protecting overalls, water-proof shoes and sloves and protect from inhallation of aerosols with pall or mask. If not being used for spraying of the immitant, the can with the imitant must be always stored in the shielded packing (container).



Other risks

The imitant contains acid, pH before drying-up is 3. The imitant can speed up the corrosion of metallic (especially iron) surfaces with poor-quality paint.

The aerosol can with imitant Radim contains highly flammable gas and it is under permanent pressure: protect from heating over 40 °C (104 °F), fire and solar rays!. Do not pierce even the empty can. Do not throw the empty can into fire. Do not spray into open fire or to hot subjects. Store in temperatures 10-25°C, out of reach of ignition source – do not smoke.



Capacity

One distribution of the imitant consists of 5 pieces of aerosol cans AN 210/150 ml. One aerosol can AN 210/150 ml is able to pollute up to 1 m², according to the decay of isotope and degree of required contamination.



Additional info

Expiry:

Radim-Y (contains isotope ⁹⁰Y): 5 days

Radim-Sm (contains isotope ¹⁵³Sm): 3.8 days

Radim-Ho (contains isotope ¹⁶⁶Ho): 2.2 days

Radim-Tc (contains isotope ^{99m}Tc): 30 hours

Way of distribution

As a goods, the imitant Radim is supplied only to holders of appropriate licence of the State Office for Nuclear Safety, who is permitted to handle such source of ionizing radiation.

The imitant Radim is distributed to other customers in the Czech Republic as a part of the turn-key service which must include presence of authorised supervisor according to law 18/1997 Coll. as subsequently amended.

Destruction and disposal of wastes

The used pieces of imitant are collected back by the producer and disposed according to valid legal framework. Other small pieces of equipment, tools and other waste contaminated during the training (that cannot be decontaminated) are also collected by the producer. The producer can refuse to take back the rest of imitant or contaminated subject in case of serious doubt about its origin or origin of the contamination (that means seriously debased product label, non-existence of any documentation to the present radionuclides etc).

Accessories

Accessories supplied together with the imitant Radim

- Instructions for use of Imitant of Contamination with Radioactive isotope Radim
- Documentation on open radionuclide source of ionizing radiation according to the decree 307/2002 Coll.
- Shielded packing (containers) according to decree 317/2002 Coll. that contain aerosol cans with the imitant. This packing (containers, suitcase) remain possession of the producer. The producer demands its return in order.

Accessories supplied with the training set

- Tampons for taking of skimming samples
- Solution for moistening of the tampons during taking of skimming samples IS-1 (plastic bottle with dropper of volume 50 ml)

Accessories that customer should provide

- Sufficient amount of water to wash the area after finishing the training (tank with branch etc.)
- Area for the training (has to be consulted with the producer of the imitating agent).

