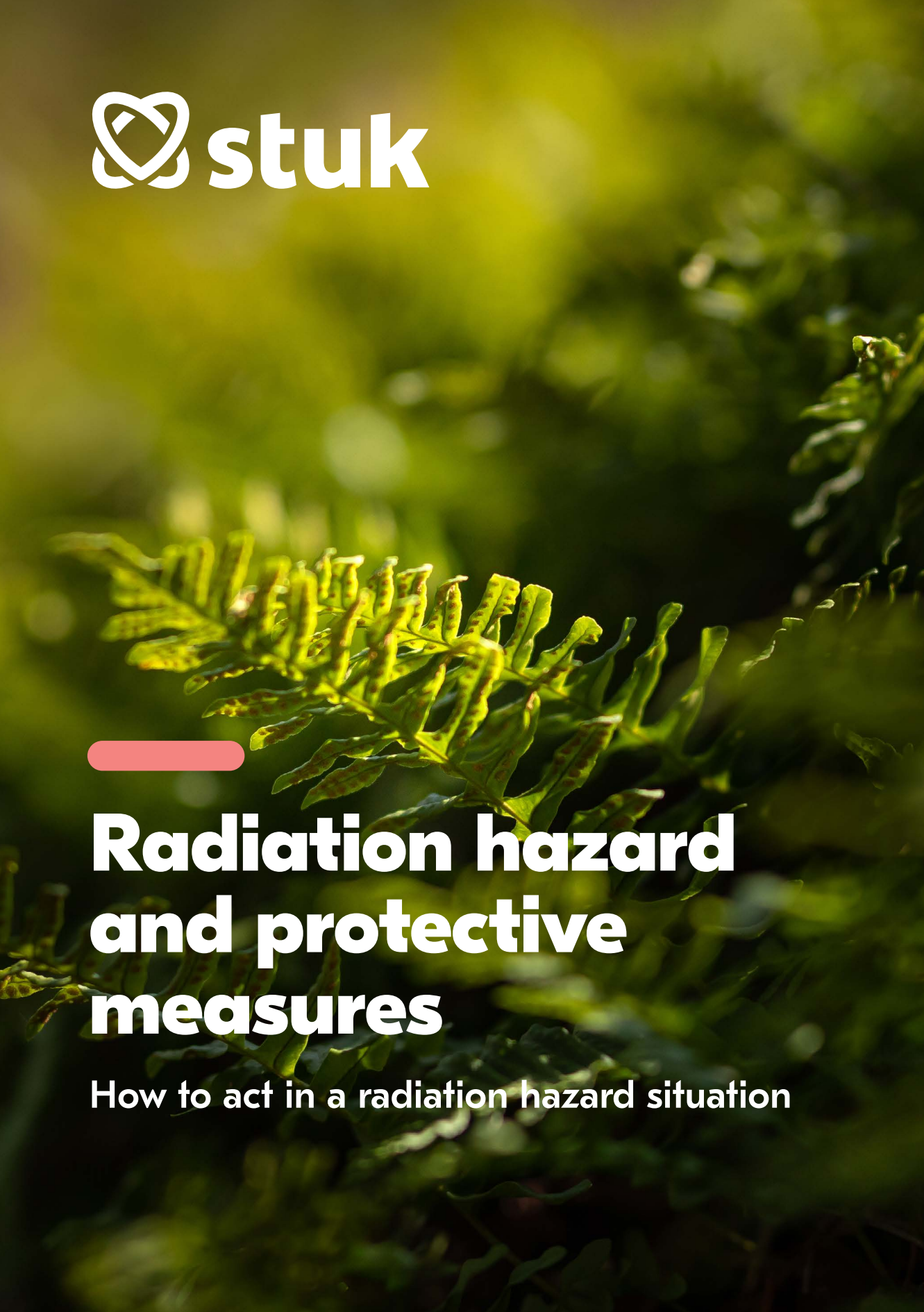
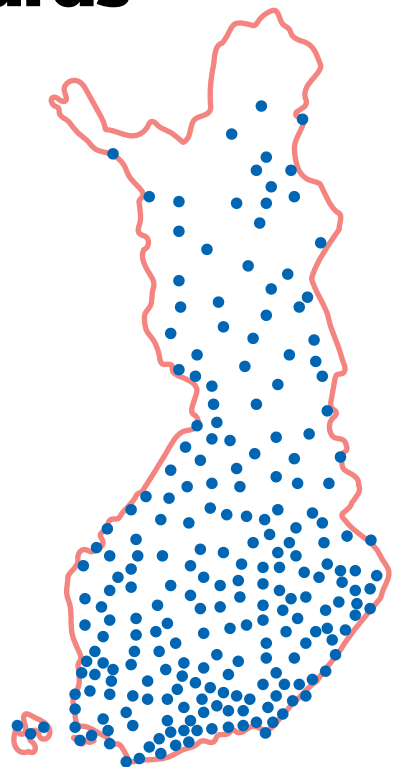


Radiation hazard and protective measures

How to act in a radiation hazard situation

Preparations have been made for radiation hazards



The probability of a serious radiation hazard situation is low in Finland. Since there is nevertheless always the risk of an accident, preparations must be made. Information about a potential serious accident in the vicinity would be provided before the need for protection arises. There are international agreements for reporting radiation and nuclear accidents, and neighbouring countries have secured the mutual exchange of information.

The radiation situation in Finland and in the neighbouring countries is constantly monitored and even minor changes are detected immediately. Finland has a radiation monitoring network whose measurement stations are equipped with automatic alarms.

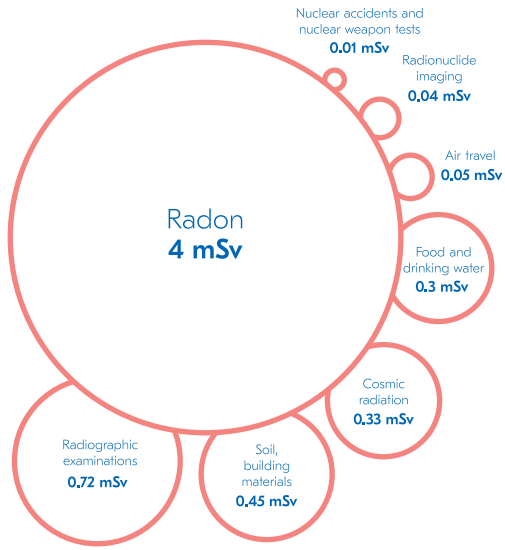
The Radiation and Nuclear Safety Authority (STUK) expert on call receives all the notifications related to radiation and nuclear safety and actions are launched within 15 minutes 24/7. The authorities have planned the actions to be taken in a radiation hazard situation and have practiced them regularly.

The automatic radiation monitoring network in Finland includes approximately 260 measurement stations. The stations transmit radiation readings at 10-minute intervals to STUK and the regional emergency response centre. The measurement data is updated on the STUK website once an hour. If a reading is elevated, the station will alert the STUK expert on call and emergency response centre, and they will request that the Emergency Services Department carry out a confirmation measurement using a portable radiation meter.

The Radiation and Nuclear Safety Authority provides protection

The Radiation and Nuclear Safety Authority monitors radiation safety in Finland and makes preparations for radiation hazard situations. STUK monitors the presence of radiation in the environment round the clock. STUK also monitors nuclear power plants and regulates the use of radiation in health care and industry.

The goal of the Radiation and Nuclear Safety Authority's operations is to keep the radiation exposure of the Finnish population as low as reasonably achievable and the level of radiation safety as high as possible.



Two-thirds of the annual average radiation dose received by Finns (approximately 6 millisieverts) originates from radon in indoor air. The proportion of artificial radioactive substances in the environment is very small.

Introduction to the concepts

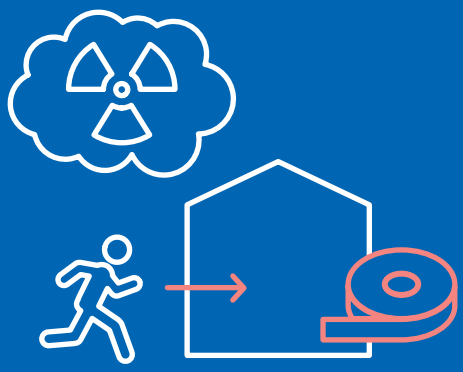
A radiation dose indicates the health detriment caused by radiation. The unit of dose is the sievert (Sv). A dose is often expressed as thousandths of a sievert, i.e. as millisieverts or its millionths, i.e. microsieverts.

Dose rate indicates the size of the radiation dose received by a person in a given period of time. The unit of dose rate is sieverts per hour. It is normally expressed as millionths, i.e. microsieverts per hour.

Protective measures in a r

Get indoors when you hear the general emergency signal or when instructed to take cover indoors. Stay in the middle part of the building or in the basement which offer the best protection.

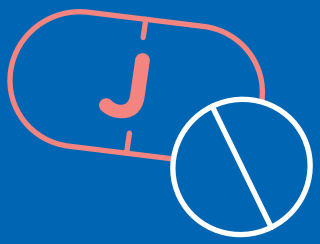
Shut off the ventilation of the building. Close and tape the doors, windows and other air vents.



Follow the instructions given online by the authorities and listen to the instructions provided on radio and TV. Please make sure that information you shared comes from a reliable source.

Avoid using the telephone to prevent overloading the telephone lines. This way, you can secure the authorities' communications.

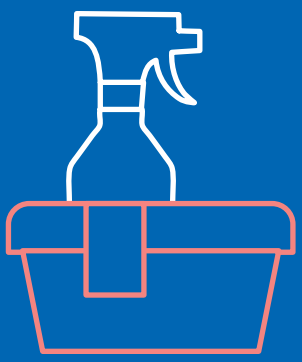
Only take the iodine tablet when advised by the authorities and follow the dosage instructions.



If you go out, wear a tight outfit that covers your skin and a respiratory filter. When you come back in, wash your clothes and wash yourself carefully in the shower.

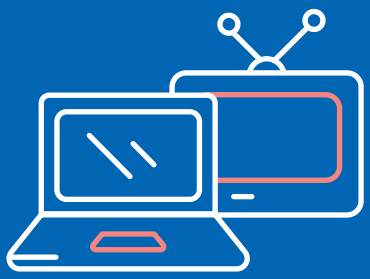
In a serious radiation hazard situation, follow the commun
The Emergency Services Department v

What to do when the air outdoors no l

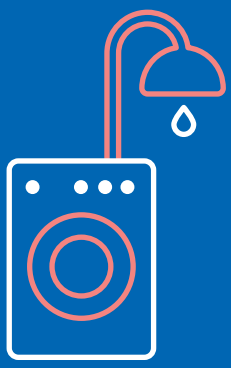


Follow the instructions given by the authorities on required cleaning measures and restrictions on the use of foodstuffs after the radiation hazard situation.

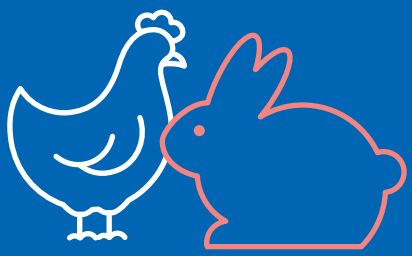
adiation hazard situation



Shield foodstuffs by keeping them in closed boxes. It is safe to use food in closed boxes and tap water.

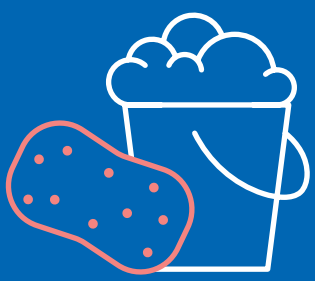


Take pets inside and protect their feed and drinking water.

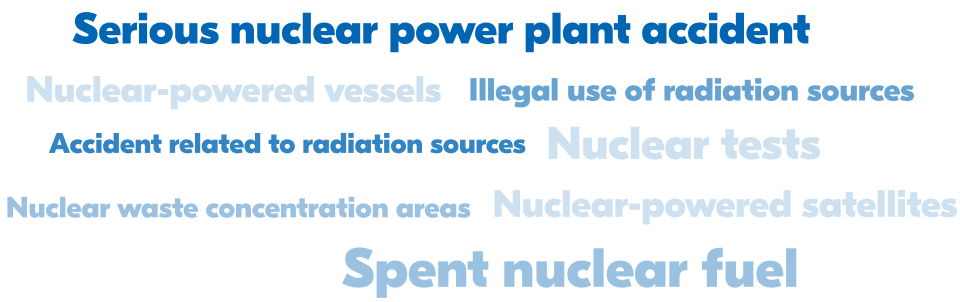


ications of your regional Emergency Services Department.
vill decide on the protective measures.

onger contains radioactive substances



Ventilate the indoors and wipe the surfaces.



The probability of a serious radiation hazard situation is low in Finland, but the accident risk nevertheless exists. Radiation threats are different, as are the extent of their affects, if realised. For example, the impacts of a radiation source-related accident would be limited to the indoors or the vicinity of the incident site. A serious nuclear power plant accident could cause a radiation hazard situation requiring protective measures over a large area.

What could cause a radiation hazard situation in Finland?

Radiation can be used in research and industry in a controlled manner such as in control and monitoring devices. In hospitals, radiation is used to examine patients and treat cancer. If an accident occurred in these circumstances, the impacts would be limited to the immediate vicinity, mostly indoors.

Impacts of a serious nuclear power plant accident may extend to a large area. Radioactive gases and particles released into the air will drift away with the wind. The wind speed dictates the velocity of the radioactive plume and the direction of the wind determines which areas will be contaminated. The radioactive plume will expand and lose its radioactivity as it progresses.

When the radioactive plume has passed over an area, the air will no longer contain radioactive substances, but they will be on the ground and on all surfaces. There can be even major local differences in the fallout. For example, rain will increase the number of particles falling to the ground.

A map of nuclear power plants in operation in Finland and neighbouring areas (situation in March 2020).

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STUK

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