



Schweizerische Eidgenossenschaft
Confédération suisse
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Federal Office for Civil Protection FOCP

Consultation Centre for **Radioactivity**

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Impressum

Federal Office for Civil Protection FOCP

Premedia

Centre of electronic media

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To the visitors of the Consultation Centre for Radioactivity

What is the purpose of the Consultation Centre for Radioactivity?

The Consultation Centre for Radioactivity is a joint service established by the Confederation, the Cantons and other partners. At the Consultation Centre for Radioactivity, potentially contaminated people will have their radiation levels measured and will be taken care of by our team of experts.

In case of contamination, you will be decontaminated on-site and given a new set of uncontaminated clothing. Furthermore, you will be provided with information and individual consultations to better understand the consequences of radiation on your health.

Who can use the Consultation Centre's services (measurements, personal consultations)?

In general, the Consultation Centre for Radioactivity is open to anyone from the area affected by increased radioactivity.

However, the capacity of the Consultation Centre for Radioactivity is limited to 1000 people per day.

The Centre is therefore primarily aimed at people who were outside during the passing of the radioactive cloud. Priority will be given to the more sensitive sections of the population, such as children, minors, pregnant women and breastfeeding mothers.

If the capacity of the Consultation Centre for Radioactivity is exceeded, priority will be given to the examination and consultation of particularly sensitive people.

Visitors may have to face long waits both to enter the Centre and to use some of its services. We apologise for any inconvenience and appreciate your understanding.

Please remain calm to ensure that none of the operations are disturbed.

We also ask you to contribute where possible to a speedy and efficient operation of our Centre. Please follow the instructions given by our staff at all times.

Set-up and Process of the Consultation Centre for Radioactivity

Connection to public transports, parking for individual visitors

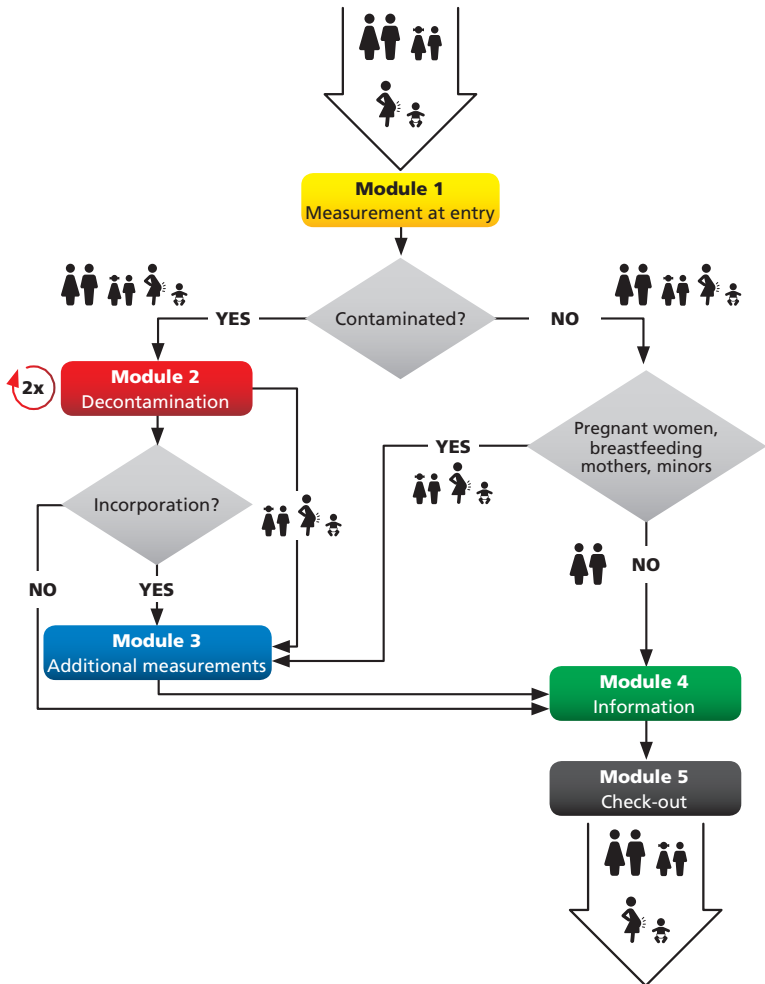
MODULE 1
Check-in, monitor, triage

MODULE 2
Shower area, decontamination of persons (up to two showers if necessary), disposal of contaminated clothing, handling of personal belongings, receiving clean clothing

MODULE 3
«Mobile Lab», measurement of thyroid gland and full body if necessary

MODULE 4
Information point (posters, TV, radio, internet, electronic situation display), consultation booths (radioprotection experts and doctors)

MODULE 5
Check-Out (more details on page 14)



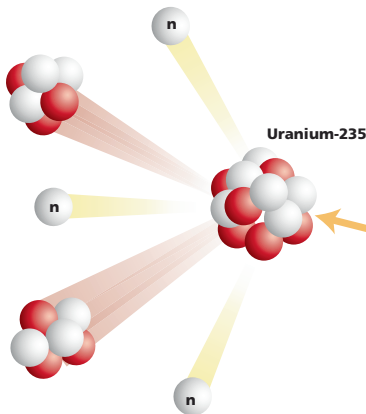
Background information

What is radioactivity?

Radioactivity is the ability of a nucleus to spontaneously decay into another nucleus by sending out radiation.

WHAT HAPPENS IN A REACTOR?

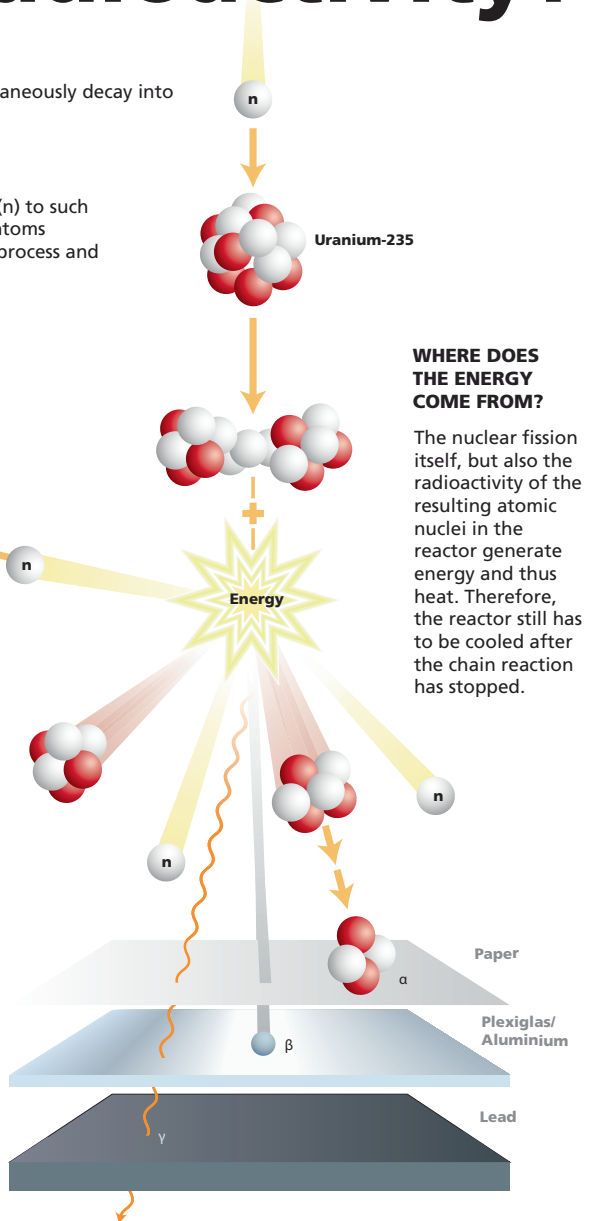
Uranium atoms are destabilised with neutrons (n) to such an extent that they break up into two smaller atoms (nuclear fission). Neutrons are liberated in this process and hit other uranium atoms (chain reaction).



Uranium can decay into a variety of different atoms. Almost all fission products are unstable, they continue to decay and emit high-energy radiation, until at some point a stable nucleus (non-radioactive) is formed.

THREE TYPES OF RADIATION?

Alpha radiation (α) consists of heavy beta radiation (β) of light particles. Gamma radiation (γ) however, is similar to X-rays. While it is relatively easy to shield off alpha and beta radiation, gamma radiation can only be weakened by layers of lead.



Daily radioactivity and radioactivity in case of an incident

We are constantly exposed to radiation. It comes from outer space, out of the ground or from food. In Switzerland the natural dose is about 4 millisievert (mSv) per year, in the mountains it is slightly higher than in the lowlands. We receive an additional dose from medical interventions and therapies.



DOSE

The health risk from radiation depends on the type of radiation, radiation quantity and duration of exposure

100 mSv

There is, mathematically speaking, a higher risk of cancer (0,5% above the spontaneous risk)



20 mSv

(Annual) dose limit for staff exposed to radiation for professional reasons



Approx. 5,5 mSv

Average annual dose in Switzerland (sum of cosmic rays, terrestrial radiation, food and drinking water, medicine, radon, past nuclear tests and nuclear power plant incidents)



1 mSv

Annual dose limit for the population (per year, without medical treatment; additional dose)



0,1 mSv

Thorax X-ray



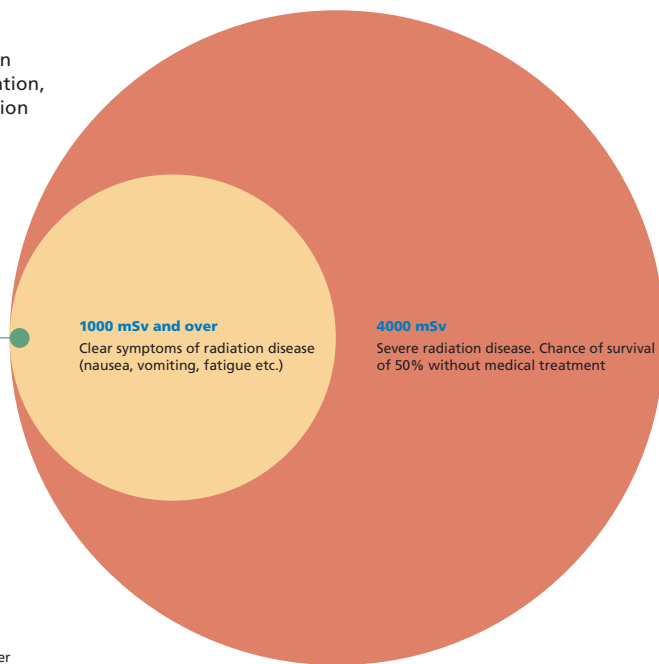
0,03 mSv

Transatlantic flight (Zurich – Los Angeles)

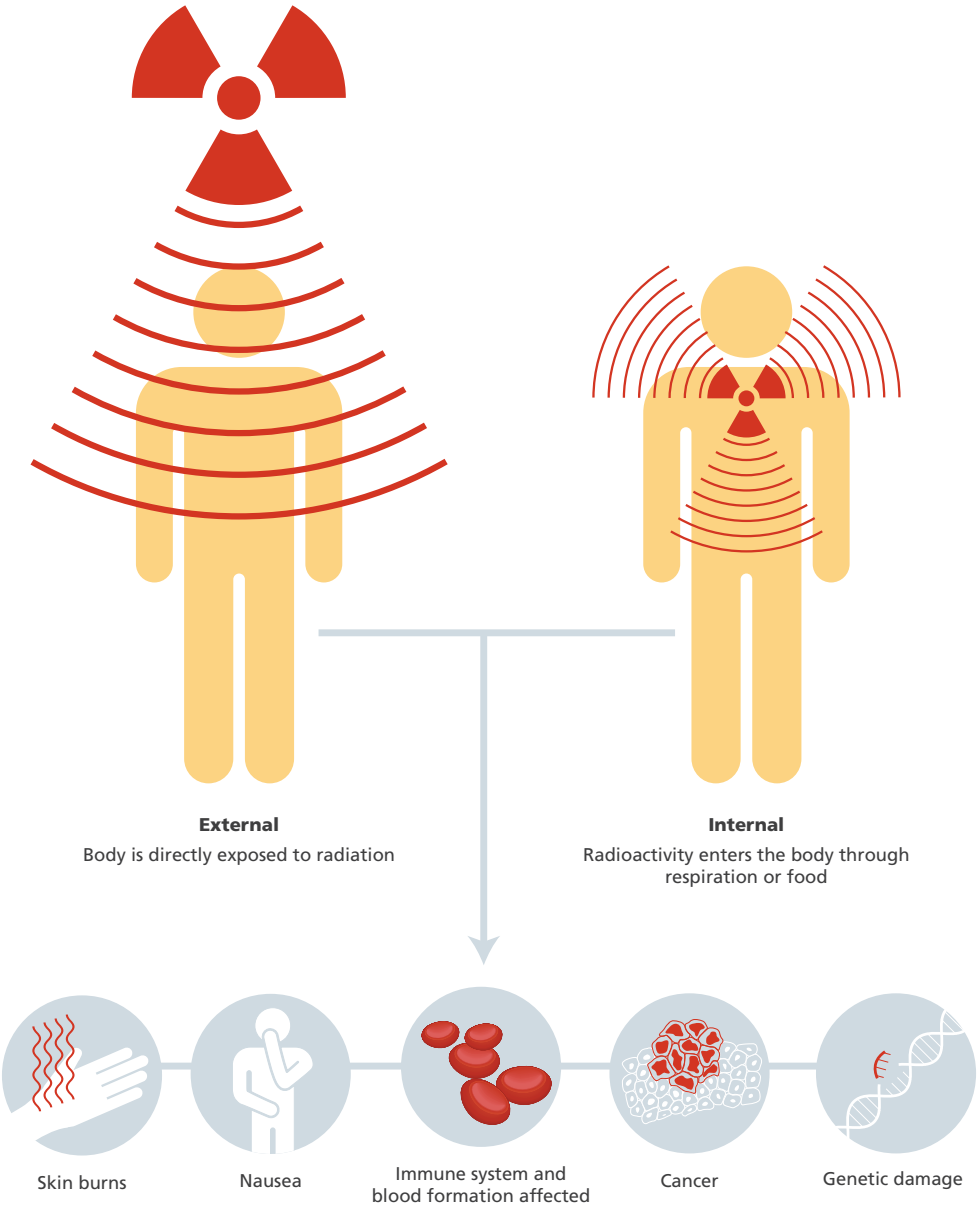


0,01 mSv

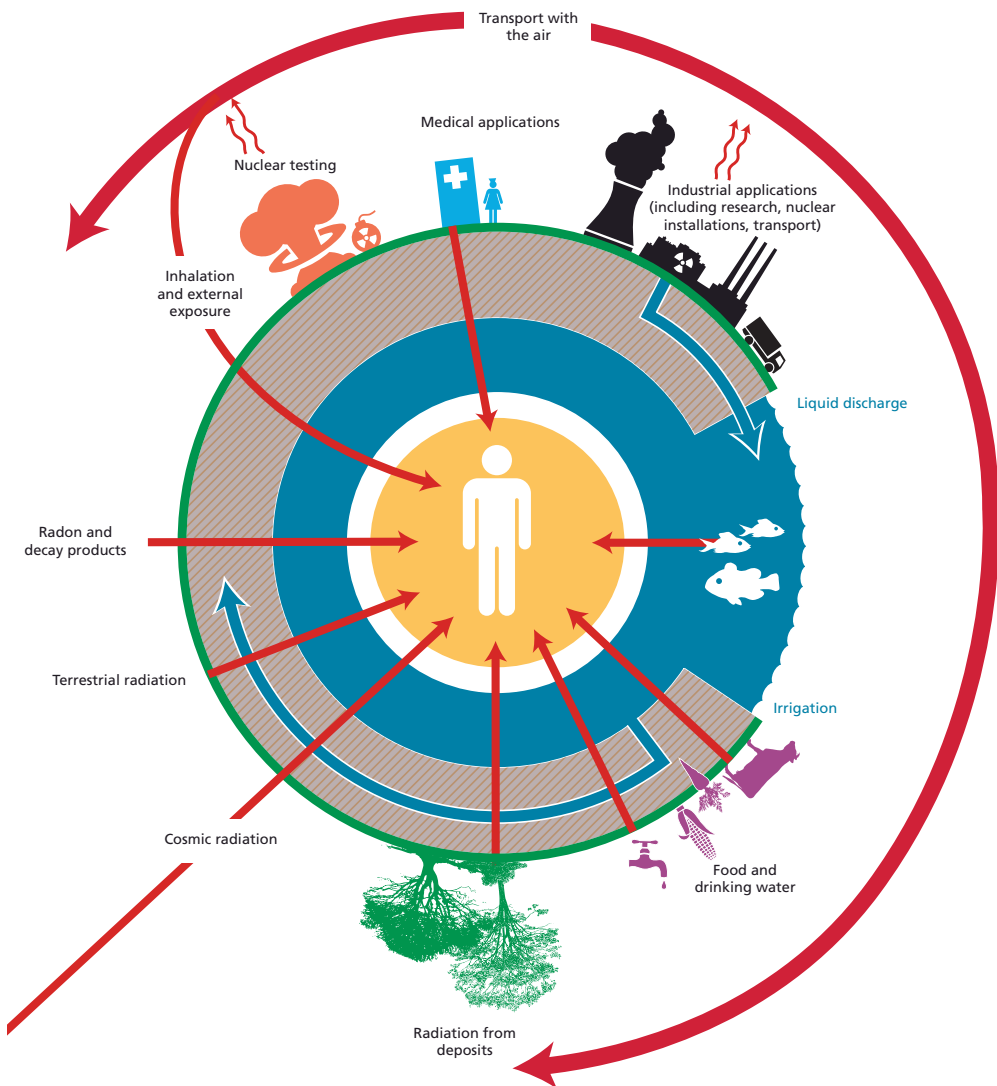
Dental X-ray



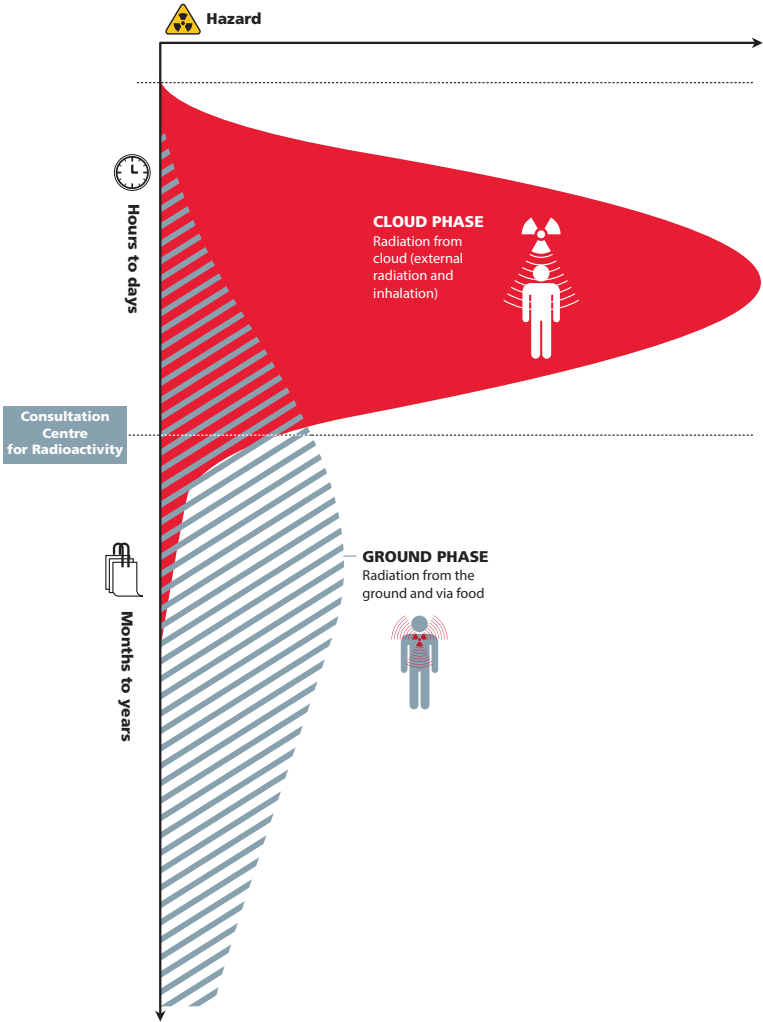
Effects on the human body



How do we come into contact with radioactivity?



The two danger phases



Protection against radiation

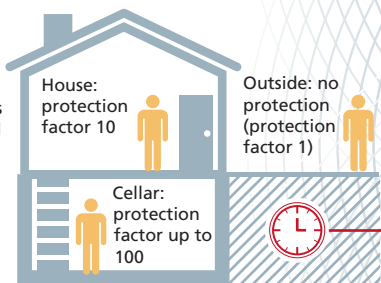
DISTANCE

The greater the distance from a radiation source, the weaker the radiation and thus safer.



SHIELDING

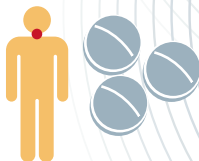
A few millimetres of material shield off alpha and beta radiation almost completely. Shelters keep most of the gamma radiation away.



The shorter the time spent at a location with increased radiation, the smaller the dose, and thus the risk

AVOIDING ABSORPTION OF RADIOACTIVITY

- The timely intake of iodine tablets prevents the body from absorbing radioactive iodine. The non-radioactive iodine in the iodine tablets is absorbed by the thyroid gland and thus prevents the absorption of radioactive iodine.
- Avoid the consumption of water and food that might be contaminated.



DECONTAMINATION

After being contaminated with radioactivity a correct decontamination is likely to reduce radiation exposure.

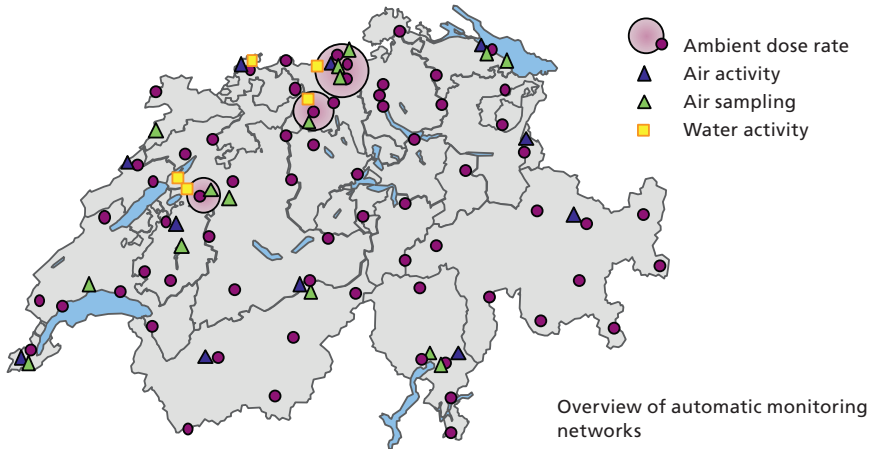


Take off and wash or dispose of clothes



Shower

Organisation for sampling and measurement in case of increased radioactivity



Automatic monitoring networks

- Monitoring networks for the measurement of the ambient dose rate, air and water activity
- Air collectors



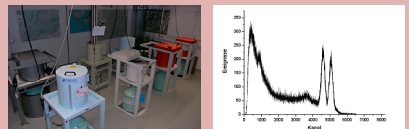
Mobile Measuring Devices

- Ad-hoc measurement of the ambient dose rate
- Environmental sampling
- Animal feed and food sampling
- Deposition determination
- Samples measured on the field



Laboratories

Specialized laboratories (EAWAG, Federal Office of Public Health, Institute of Radiation Physics IRA, Laboratory Spiez, Paul Scherrer Institute), some cantonal laboratories and the military laboratory for the analysis of samples



What should I do after leaving the Consultation Centre for Radioactivity?

When can I leave the Consultation Centre for Radioactivity?

Please turn to the staff of the Consultation Centre for Radioactivity.

Where can I go?

If you live in the affected region, you should first stay with relatives or friends that do not live in the affected area. If this is not feasible, ask our staff whether it is possible to return to the affected region. If you do not know where to go, we can give you further assistance.

What do I need to do when I come home?

Always take off your shoes and jacket before entering the house. If only slight contamination was found on your body and you were not decontaminated at the Consultation Centre for Radioactivity, take a shower, change your clothes and wash the clothes you have taken off. If you already have been decontaminated at the Consultation Centre for Radioactivity, no further action is required.

What do I do with my car?

If you drove your car in the affected area, please get it washed as soon as possible and clean its inside too. If you clean the car at home, take care that the air your vacuum cleaner collects is not blown back into the interior of the car. Dispose of the vacuum cleaner bag as normal garbage.

Where can I obtain further information?

Stay informed through the media. Switch on the television and the radio. Use the Internet and the Hotline of the Federal Office of Public Health.

