RadTown USA

Mail Irradiation

Irradiated mail is passed through a high-energy beam of electrons or x-rays.

- Irradiation sterilizes mail; it does not make mail radioactive.
- Mail irradiation can damage many plastics and make paper brittle.

About Mail Irradiation

In October 2001, deadly anthrax was found in mail sent to various news agencies and to the offices of two U.S. Senators. As a precaution, the U.S. Postal Service, with help from the Federal Bureau of Investigation and public health experts, began to irradiate mail.

The irradiation process passes mail through a high-energy beam of electrons or x-rays. It delivers a radiation dose that is approximately 2 million times stronger than a chest x-ray. The beam penetrates deep into the mail to destroy bacteria and viruses. It can even penetrate letter trays and packages.

The radiation has so much energy that it causes chemical changes in the paper. The mail comes out brittle and discolored. It looks like it has been baked in an oven and may have an odd smell. The large amounts of high energy used in irradiation will turn plastics brown and warp the cases of computer discs (See the image above, at right). However, irradiating mail does not make it radioactive.

Irradiating mail can make it dry, brittle or discolored.

Radiation levels are closely monitored at mail irradiation facilities to ensure that workers are safe. The facilities have very thick concrete or lead-lined walls shielding the exposure rooms. This ensures that employees and visitors are protected from harmful radiation.

Mail irradiation facilities have special procedures in place to keep workers safe.

Rules and Guidance

Remember: Irradiation does not make mail radioactive.

U.S. POSTAL SERVICE (USPS)

USPS employs contractors who irradiate mail that is sent to some government agencies. Irradiating mail ensures that those receiving the mail will not be exposed to harmful biological materials such as anthrax.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES (HHS), U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)

CDC's National Institute for Occupational Safety and Health (NIOSH) conducted three health hazard evaluations on the handling of irradiated mail in response to health complaints from some individuals who handled it.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES (HHS), U.S. FOOD AND DRUG ADMINISTRATION (FDA)

FDA protects public health and safety by setting rules for the manufacturing of products that emit radiation. These include equipment for mail irradiation.

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

Federal and state agencies use EPA's federal guidance to develop rules and regulations that protect radiation workers and the general public from unnecessary exposure to radiation. These rules are used to protect radiation workers from harmful effects during the irradiation process.

What you can do

There are no radiation concerns with handling irradiated mail. Irradiation does not make the mail radioactive. It simply exposes the mail to high-energy beams that kill any bacteria.

Where to learn more

You can learn more about irradiated mail by visiting the resources available on the following webpage: http://www3.epa.gov/radtown/mail-irradiation.html#learn-more.