Editorial
Volume 6:1, 2022

Journal of Environmental Hazards

ISSN: 2684-4923 Open Access

Introduction to Radioactive Contamination

Priya G[1*]

[1]*Department of Environmental Science, Osmania University, Hyderabad, Telangana, India*

Editorial

The deposition or presence of radioactive chemicals on surfaces or inside solids, liquids, or gases, if their presence is unexpected or undesired, is referred to as radioactive contamination. Because of the radioactive decay of the pollutants, which creates adverse effects including ionising radiation and free neutrons, such contamination poses a risk. The quantity of pollutants, the energy of the radiation being released, the kind of radiation, and the closeness of the contamination to bodily organs all contribute to the degree of hazard. It's critical to understand that contamination causes the radiation threat, and the phrases "radiation" and "contamination" should not be used interchangeably.

Natural and man-made causes of radioactive contamination can be divided into two categories. Nuclear fuel and fission products will contaminate the air, soil, humans, plants, and animals in the area following an atmospheric nuclear weapon detonation or a nuclear reactor containment breach. A spilt vial of radioactive substance, such as uranyl nitrate, might contaminate the floor as well as any cloths used to clean up the spill. The Bikini Atoll, the Rocky Flats Plant in Colorado, the Fukushima Daiichi nuclear accident, the Chernobyl disaster, and the area around the Mayak plant in Russia are all examples of extensive radioactive contamination. Unless the radioactive material can be reprocessed and put to commercial use, cleaning up contamination results in radioactive waste. Large regions of pollution may be mitigated by burying and covering the contaminated material with concrete, dirt, or rock to prevent contamination from spreading farther into the environment. If a person's body has been polluted by ingesting or damage and regular washing has not been able to remove the contamination, the individual may be permanently contaminated.

For decades, the government and the commercial nuclear sector have utilized contamination management solutions to reduce contamination on radioactive equipment and surfaces and to fix contamination in place. Fixatives, strippable coatings, and decontamination gels are all examples of contamination control products. A fixative product acts as a permanent coating that fixes loose/transferable radioactive contamination in place, preventing contamination from spreading and reducing the risk of contamination becoming airborne, reducing workforce exposure and facilitating future deactivation and decommissioning activities. Strippable coating materials are paint-like films that are weakly attached and used for decontamination. They are applied to surfaces that have loose/transferable radioactive contamination and then peeled off once dry, removing both the loose/transferable contamination and the product. Once the strippable layer is removed, the amount of radioactive contamination on the surface is greatly decreased. Modern strippable coatings have a high level of decontamination efficiency and can compete with older mechanical and chemical procedures. Decontamination gels are similar to other strippable coatings in that they act in the same way. The results obtained with contamination control products are vary and rely on the kind of substrate, the contamination control product chosen, the pollutants, and the surrounding circumstances [1-3].

The Fukushima Prefecture in Japan has committed to decontaminating some of the major locations. The national government is under pressure to clean up radiation from as much land as possible as a result of the Fukushima nuclear disaster in March 2011, so that some of the 110,000 people who were relocated can return. By removing the primary radioisotope that poses a health risk from low-level trash, the volume of waste that requires special disposal might be drastically reduced. The objective is to develop procedures that can remove 80 to 95 percent of caesium from contaminated soil and other materials quickly and without harming the soil's organic composition. Hydrothermal blasting is one of the methods being researched. Caesium is extracted from soil particles and precipitated using ferric ferricyanide. It would be the only part of the garbage that required specific disposal. The goal is to reduce annual contaminated-environment exposure to one millisievert above background. The most polluted region, with radiation doses more than 50mSv/year, must stay closed, but certain sections with doses less than 5mSv/year might be decontaminated, enabling 22,000 inhabitants to return [4,5].

Conflict of Interest

None.

References

1. Vakulovsky, S. M. and E. G. Tertyshnik. "Radioactive contamination of the Yenisei River." *J Environ Radioact* 29 (1995): 225-236.
2. Whicker, F. W., G. Shaw, G. Voigt, and E. Holm. "Radioactive contamination: state of the science and its application to predictive models." *Envi Pollu* 100(1999): 133-149.
3. Geraskin, S. A., V. G. Dikarev and R. M. Alexakhin. "Genetic consequences of radioactive contamination by the Chernobyl fallout to agricultural crops." *J Environ Radioact* 66 (2003): 155-169.
4. Mietelski, Jerzy W., Mirosława Jasińska and Piotr Macharski. "Radioactive contamination of Polish mushrooms." *Sci Total Environ* 157 (1994): 217-226.
5. Papp, Z., Z. Dezső, and S. Daroczy. "Significant radioactive contamination of soil around a coal-fired thermal power plant." *J Environ Radioact* 59 (2002): 191-205.

How to cite this article: G, Priya. "Introduction to Radioactive Contamination" *J Environ Hazard* 6 (2022): 159

***Address for Correspondence:** Priya G, Department of Environmental Science, Osmania University, Hyderabad, Telangana, India, E-mail: Prigya123@gmail.com*

Received: 05-January-2022, Manuscript No: jeh-22-55722; **Editor assigned:** 07-January-2022 PreQC No. P-55722; **Reviewed:** 12-January-2022, QC No. Q-55722; **Revised:** 17-January-2022, Manuscript No. R-55722; **Published:** 22-January-2022, DOI: 10.37421/2684-4923.22.06.159