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## Hot radioactive particles from Fukushima found in the US, new study shows

## Children's shoes in Japan contaminated with cesium

Takoma Park, MD - Scientist Marco Kaltofen of Worchester Polytechnic Institute (WPI) confirmed at a presentation on Tuesday that hot radioactive particles from the Fukushima-Daiichi reactor accidents in Japan have been found in the US. In a presentation of his analysis at the annual meeting of the American Public Health Association (APHA), Kaltofen said that his research also found airborne and ground contamination in northern Japan.

Kaltofen analyzed dust on the US West Coast, found to contain radioactive cesium, and examined car air filters in Seattle and in Japan which revealed high levels of radioactivity, in the case of the filters in Japan high enough to be classified as "radioactive waste." He also tested children's shoes which were contaminated with cesium.

Kaltofen's research also found elevated levels of alpha and beta radiation in the Boston area approximately one month after the Fukushima explosions. Levels in both Seattle and Boston have since declined. Soil samples in the United States showed higher than normal levels of cesium.

Kaltofen's research team tested samples collected by volunteers in Japan. The team also set up monitoring stations in Massachusetts, Seattle, Boulder, San Francisco, and Hawaii.

In Japan, Kaltofen's team found iodine-131 (which collects in the thyroid but has since mostly decayed to background), cesium-134 and -137, cobalt-60 (Northern Japan), as well as additional fission products, many of which are still active and, therefore, dangerous. Cesium 134 and 137 from Fukushima were also found in the US. Cesium was found in Japanese children's shoes at levels 166 times higher than in the US.

"Not only are children more at risk inherently, it seems they are particularly susceptible to higher exposure levels because they are closer to the ground and ingest proportionally larger amounts of dirt and dust just being kids," said Cindy Folkers, Radiation and Health Specialist, Beyond Nuclear. "Dangerous at any level, at the contamination levels found in Japan, this can be devastating if stringent protection measures aren't taken."

Children ingest up to 200 milligrams of dust and soils per day meaning their internal contamination can be quite large. Internal contamination from hot particles can last a long time, irradiating people for years causing diseases such as cancer and heart disease as well as damage to future generations.

"The world is in a precarious position because the Japan government and the nuclear industry have not been completely truthful about the contamination levels – which experts now say are much higher than initially thought, "added Folkers. "Obviously we have concerns about cesium contamination in the US from Fukushima as well and a proper sampling program should be initiated by independent scientific bodies, not just air monitoring but also soil and foodstuffs," she said.

"Japan is burning the radioactive trash from this catastrophe and giving products produced in the contaminated areas as development aid in an attempt to spread the radiation to other areas. The US, already exposed to Fukushima radiation could see new contamination as a result," said Arnie Gundersen, of Fairewinds Associates. Gundersen is an energy advisor with 39 years of nuclear power engineering experience.

Kaltofen's data point to serious levels of contamination outside of the Fukushima 12-mile evacuation zone which led Kaltofen to question whether a 10-mile evacuation zone for US reactors is adequate.

"This industry, with government acquiescence, has always underestimated risks from accidents like these" concluded Folkers. "From a public health standpoint, we can't wait for publication of data, in this case seven months later, to decide whether or not protective action is adequate. We need to get people out of harm's way immediately. Being more protective is preferable to finding out later that a great harm could and should have been prevented."