

## Mercury pollution and its comprehensive risk analysis in ASGM site

Principal Investigator: Koyomi Nakazawa

Institution: Toyama Prefectural University

5180, Kurokawa, Imizu City, Toyama, JAPAN

Cooperated by: Fukuoka Institute of Technology, Japan

### [Abstract]

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Even in very small amounts, mercury has the harmful effects on organisms and humans. The serious problems of mercury exposure to humans are oral exposure through ingestion of mercury-containing foods and inhalation of mercury vapors. However, due to the cost of atmospheric mercury monitoring, a limited number of atmospheric mercury has been reported. These reports are monitored at one observation point and represent the concentration of observation area. Most of cases we could not argue the regional distribution of atmospheric mercury concentration. As a result, regional discussion of inhalation-derived exposure and human health risk has not many reported. In this study, we focused on atmospheric mercury and developed a mercury passive sampler which is a simple and can be used to determine atmospheric mercury concentrations regardless of the location of study area. Sampling Rate (SR) were obtained both from indoor atmospheric mercury exposure tests and field survey. The cost of our passive sampler was 20 ~ 40 % of that of a commercial product. Based on the field measurements of atmospheric mercury concentrations, the human health risk assessment via inhalation framework has developed. Our passive sampler is a method using quartz filter paper. Therefore, we will be able to send the sampler via EMS or airmail if we obtain the collaborator where we want to know the atmospheric mercury concentration. The prototype of atmospheric mercury concentration monitoring kit and risk analysis method has developed.

### [References]

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