

Respiratory Exposing Chemicals and Human Health

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In animals that live in the natural world, food and water are the main exposure routes of hazardous chemicals, because chemicals are transferred between living things by the food chain as nutritional substances. On the other hand, the measures concerning the safety of food and water have reduced the exposure amount of hazardous chemicals. However, air pollutants have become very serious with the rapid industrial development and air is the major exposure route in the human to several chemicals such as polycyclic aromatic hydrocarbons (PAHs) and nitropolycyclic aromatic hydrocarbons (NPAHs). This is one of the major projects of the Kanazawa University 21st Century COE program “Environmental Monitoring and Prediction of Long- and Short-Term Dynamics of Pan-Japan Sea Area”. Both PAHs and NPAHs, which cause lung cancer and circulatory system diseases or showing endocrine disrupting activities, are released into the air through the combustion of fossil fuels, smoking and cooking. Their compositions, concentrations and chemical forms are greatly different according to the difference of the sources, suggesting that the influence on the human health might be different depending on the energy situation in each country and an individual lifestyle.