

# Status of exposure assessment and diffusive sampling approaches for VOCs in Korea

## SYMPOSIUM

Diffusive or passive sampling approaches have been long applied to monitor workers' exposure to volatile organic chemicals (VOCs) at work. Compared with pumped or active sampling methods, the diffusive approaches have strengths such as non-pump operation, light weight, less intrusion, easy transportation, simple handling, etc. Currently, a number of diffusive samplers are commercially available while there are still limitations or controversies in applications due to high cost as well as incapability of changing uptake rate and/or irregular environmental conditions. Korea Occupational Safety and Health Agency (KOSHA) launched a program entitled as 'A program providing information on chemicals exposed to workers' since the year of 2020. VOCs sampled using diffusive samplers in workers are analyzed at KOSHA and the results are informed to the workers across the country. Moreover, in line with the program, research activities have been conducted over years as well. The objective of the symposium is to share information on what and how diffusive sampling approaches for VOCs have been addressed over years and will be applied in Korea in the near future. In the symposium, the first speaker will share research experiences taken in the stages of a multiple-year project developing a chamber to test diffusive samplers for VOCs at KOSHA. The second will present key findings in development of a new type of diffusive samplers for VOCs at an IH Laboratory. And the third will share an approach on how KOSHA used diffusive samplers to monitor exposure to VOCs in workers across the country.

### Development of a chamber system to test passive samplers for VOCs at KOSHA

Jung-Keun Park (KOSHA, Korea, Republic of)

### Features of key findings in development of a new type of diffusive samplers for volatile organic compounds at work

Gwang Yong Yi (KOSHA, Korea, Republic of)

### A new nationwide approach to monitor workers' exposure to volatile organic compounds using diffusive samplers

Haedong Park (KOSHA, Korea, Republic of)

## MODERATOR



Seung-Hyun Park

I am currently the Director of Work Environment Research Bureau, Occupational Safety & Health Research Institute, KOSHA. With a certified professional engineer on occupational hygiene in Korea, I have been conducted research work including exposure assessment for hazardous chemicals in semiconductor and LCD manufacturing sector as well as general industry for more than 25 years.

## SPEAKERS



Jung-Keun Park

Jung-Keun Park, he is a chief researcher working at Occupational Safety and Health Research Institute (OSHRI), Korea Occupational Safety and Health Agency (KOSHA). He is one of members who found Korean Industrial Hygiene Association (KIHA) in 1990 and is also currently a Vice-President at the KIHA. He was seconded and worked at the ILO-Bangkok from 2011 to 2013. With a ScD (Occupational Ergonomics) from the Univ. of Massachusetts Lowell, USA, Dr. Park has been primarily interested in areas such as assessment of exposure to musculoskeletal disorder risk factors, establishment of OH standards or guidelines (e.g., ISO, KS, KOSHA Guide), ergonomic aspects of respiratory protectors, Industrial hygiene/Ergonomics intervention, and OH policy for more than 31 years at KOSHA.



Gwang Yong Yi

Dr. Gwang Yong Yi, a researcher, is currently the senior researcher of Work Environment Research Bureau, Occupational Safety and Health Research Institute, KOSHA and is a board member of the Korean Industrial Hygiene Association. With a certified professional engineers on industrial hygiene in Korea, he has been conducted research work including exposure assessment for hazardous chemicals in indium industries and LCD manufacturing sector as well as general industry for more than 25 years.



Haedong Park

Mr. Haedong Park, is currently senior researcher of Work Environment Research Bureau, Occupational Safety and Health Research Institute, KOSHA. He is a certified professional engineers on industrial hygiene in South Korea and has been conducted exposure assessment for hazardous chemicals and biological agents for more than 15 years. Interest : exposure scenarios of nanoparticles in 3D printing, skin & surface exposure assessment, applications of automation for chemical analysis, etc.