

The Characteristics of particulate matter from industrial facilities using solid fuel in KOREA

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S. Korea has particularly high energy consumption rates among OECD countries, relying 97 % of them on imports. This indicates that it is urgent to develop and produce renewable energy in order to secure energy resources. Due to increase in waste and greenhouse gases, plans to replace fossil fuels using waste have been underway. However, there are more demand for research on emissions characteristics cause by SRF(Solid Refuse Fuel) & Bio-SRF. In this context, the study aims to indentify emissions characteristics of PM(particulate matters) and develop emissions factors base on the use of SRF & Bio-SRF.

As of in 2014, there are 219 SRF & Bio-SRF manufacturing facilities and 79 using facilities, of which 21 using facilities were investigated in the study. The study revealed that the average concentration of PM was 10.16 mg/m³.

the type and shape of SRF & Bio-SRF. More details on this will be presented at the conference.

We plan to accumulate emissions data from the SRF & Bio-SRF facilities and analyze them to further develop emissions factors.

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Table 1. Concentration of PM by Solid fuel

	(Unit : mg/m ³)		
	SRF + Bio-SRF (n=49)	SRF (n=37)	Bio-SRF (n=12)
Ave.	10.16	8.19	16.27
Min.	0.24	0.24	2.10
Max.	58.58	50.61	58.58

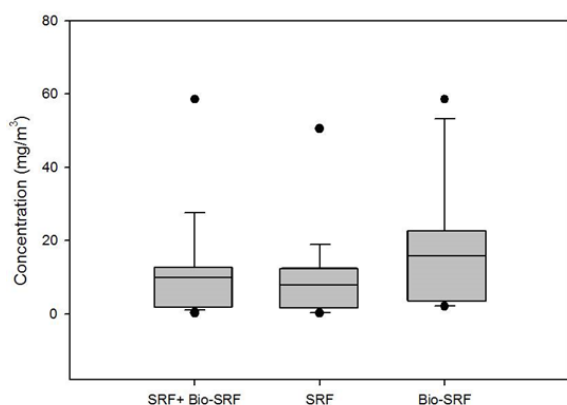


Figure 1. The Various solid fuel concentrations.

Chemical analysis was conducted to see if heavy metals and other hazardous air pollutants were included; with the average concentration of 34.83 µg/m³, zinc was the highest among other 6 heavy metals. As for VOCs analysis for 5 facilities, benzene was detected in all the facilities, with the maximum concentration of 6.58 ppb. The emissions factors for PM were similar to the previous research, but the values were highly affected by