

## [ Levels ]

Very few data have been reported the levels of PCDDs and PCDFs in normal urban air(7-9). Therefore, an aim of this study is to reveal the levels of many chlorinated compounds in the urban areas around Kobe. The concentrations of them are shown in Table 1. PCDDs and PCDFs were found everywhere, at average levels of  $8.6 \text{ pg/m}^3$  ( $1.4 - 37 \text{ pg/m}^3$ ) and  $8.8 \text{ pg/m}^3$  ( $2.2 - 22 \text{ pg/m}^3$ ), respectively. As a worthy thing, these levels were very close to those in German(8,9). On the other hand, the concentrations of PCBs (average:  $2.8 \text{ ng/m}^3$ , range:  $0.9 - 11.7 \text{ ng/m}^3$ ) or chlordanes (average:  $0.34 \text{ ng/m}^3$ , range:  $0.12 - 0.50 \text{ ng/m}^3$ ) was three digits or two digits higher than that of PCDDs or PCDFs (Table 1).

## [ Brominated compounds ]

Determination of brominated compounds was carried out using negative chemical ionization (NCI) mass spectrometry. Br anion ( $m/z$  79 and 81) were monitored together with Cl anion ( $m/z$  35 and 37). NCI-MS are available to selective detection of compounds containing Br (10). This method is not only selective but also sensitive in a reason for minimizing a background level. Various kinds of brominated compounds were found in fly ash from municipal incinerators. Fig. 7 shows a NCI mass spectrum of mono-bromo-pentachloro dibenzo-p-dioxins in the extract of fly ash.

## CONCLUSION

1. 40 fragment ions of PCDDs and PCDFs were monitored simultaneously by SIM using magnetic field switching technique. This rapid method was useful for monitoring of these compounds.
2. Both levels of PCDDs and PCDFs were  $\text{pg/m}^3$  in urban air. These levels were similar those in German.
3. A similarity in isomeric pattern of PCDDs and PCDFs was observed between in fly ash and urban air.
4. A similarity in isomeric pattern of PCBs and chlordanes was seen between in technical product and urban air.
5. Monobromo substituted PCDDs were detected in the extract from fly ash.

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