

## **Surveys of hazardous chemicals and their life-cycle stages**

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For managing hazardous chemicals and promoting recycling of valuable materials, behaviors of chemicals and environmental risks in utilization, disposal and recycling processes of the chemicals have been studied. We have been checking behaviors of hazardous chemicals at each stage throughout their life-cycle, chemicals in articles/products, chemicals in used/waste products, indoor environment at using products, working environment in dismantling process, in compressed packing process of plastics, and in granulation process of refused paper and plastic fuel, chemicals in exhaust gas from waste incineration and leachate from final disposal site. Some case studies of hazardous chemicals in plastic articles/products and emission from household products in use, mainly brominated flame retardants (BFRs) and PBDD/Fs, will be shown in the presentation. After 1998 BFRs drastically replaced by phosphoric flame retardants (PFRs) and chemical bonding type of BFRs and condensed type of PFRs is gradually increasing in Japan because of global concern. We have to utilize analytical method to obtain such information, because the information from supply chain is hardly available in many cases.