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P38. THE HIDDEN DANGERS OF TECHNOLOGY: TOXIC SUBSTANCES IN ELECTRONIC WASTE

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Electronic waste, also recognized as E-Waste, is a combination of used or unwanted electronic products that have exceeded their shelf life. Computer equipment, monitors/TV's, cell phones, batteries, stereos, etc. are popular examples of items that contain harmful toxic components that need to be recycled properly. E-waste is currently the largest growing waste stream. It is hazardous, complex and expensive to treat in an environmentally sound manner, and there is a general lack of legislation or enforcement surrounding it.

Today, most e-waste is being discarded in the general waste stream. The composition of e-waste is very diverse and differs across product lines and categories. Overall, it contains more than 1000 different substances which fall into "hazardous" and "non-hazardous" categories; significantly, the toxicity of many of the chemicals in e-waste is unknown. Electronic products often contain several persistent, bioaccumulative and toxic substances including heavy metals such as lead, nickel, chromium and mercury, and persistent organic pollutants (POPs) such as polychlorinated biphenyls (PCBs) and brominated flame retardants.

There are three main groups of substances that may be released during recycling and material recovery, and which are of concern: original constituents of equipment, such as lead and mercury; substances that may be added during some recovery processes, such as cyanide; and substances that may be formed by recycling processes, such as dioxins.

This presentation explores the sources and flows of e-waste, the risks it poses to e-waste workers and the environment, occupational safety and health issues and regulatory frameworks.