

## Electronic waste: A threat.

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### Introduction

Electrical and electronic equipment covers a wide range of products, including large and small household appliances; Information and Technology (IT) equipment, such as computers, computer games, and peripherals; cellular telephones and other telecommunication equipment; and portable electronic devices, such as PDAs, video, and audio equipment such as Mp3 players and electrical tools. These products become e-waste or WEEE (waste from electrical and electronic equipment) when they reach the end of their useful life. WEEE is defined as any equipment that relies on electric currents or electromagnetic fields to function properly, such as current generation, transfer, and measurement equipment. WEEE is one of the fastest-growing waste components in the world, accounting for 8% of all municipal waste worldwide. Electronic devices are supposed to make our lives easier and happier, but they contain hazardous chemicals, making their disposal and recycling a health hazard. It has touched every area of our lives, and the majority of us are unaware about what happens to these devices when we discard or replace them. In today's world Electronic garbage (E-waste) is one of the world's fastest-growing pollution problems, due to the existence of a number of harmful compounds that can pollute the environment and endanger human health if proper disposal protocols are not followed. Recycling using poor methods for extracting valuable metals and discarding the leftover are a genuine problem in developing countries. The life of an electronic product is relatively short, and decreasing as a result of rapid changes in equipment features and capabilities. Waste from electrical and electronic equipment is one of the priority streams in waste management. This article provides a summary of the hazardous compounds found in E-waste, as well as their possible environmental and human health consequences.

E-waste is comprised of a large range of components, some of which contain dangerous compounds that can pollute the environment and endanger human health if they are not properly managed. While there are more than 1000 toxic substances associated with e-waste, the more commonly reported substances include: toxic metals such as barium, beryllium, cadmium, cobalt, chromium, copper, iron, lead, lithium, lanthanum, mercury and manganese etc. Keeping all these things in mind, we can say recycling and disposal of electronic waste becomes an important issue. E-waste disposal has two effects on human

health: (a): Contamination of the food chain by toxic substances from disposal and primitive recycling processes, which result in by-products entering the food chain and thus transferring to humans; (b): Occupational exposure to hazardous compounds have a direct influence on workers who work in primitive recycling regions. Furthermore, various studies have shown that backyard recycling has a direct impact on workers. The threat of e-waste toxicity to human health, including chronic and acute illnesses, has become a major societal issue. For example, hazardous chemicals were found in considerable concentrations in the blood, serum, hair, scalp hair, human milk, and urine of people who resided in places where e-waste is recycled. Furthermore, when the electronic waste is dumped in landfills or are incinerated, they possess serious health risks to humans as well as animal lives. Landfill leachates can potentially transport toxic substances into groundwater whilst combustion in an incinerator can emit toxic gases into the atmosphere, as more of the electronic waste is dumped in the environment, the exposure of environmental pollutants will increase, that lead to increase the risk of cancer and neurological disorders.

In terms of e-waste management, developing eco-design devices, properly collecting e-waste, recovering and recycling material using safe methods, disposing of e-waste using appropriate techniques, prohibiting the transfer of used electronic devices to developing countries, and raising awareness of the impact of e-waste are the keys to success. Secondly, Recycling is the best way to reduce the electronic waste and it has environmental benefits at every stage in the life cycle of a computer product, from the raw material from which it is made to its final disposal. To effectively separate, process, and isolate wastes, they must be well-characterized, and that is difficult part because the waste can be heterogeneous and complicated in terms of component type, size, and shape. As a result, further in-depth and multidisciplinary research is required to fully comprehend this unique waste stream. Recycling decreases air and water pollution associated with manufacturing new products from raw materials, in addition to reducing greenhouse gas emissions, which contribute to global warming. Both government agencies and the general people have acknowledged the importance of proper WEEE management. Timely regulatory and legislative rules and processes are required to speed the adoption of proper processing and management systems.

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