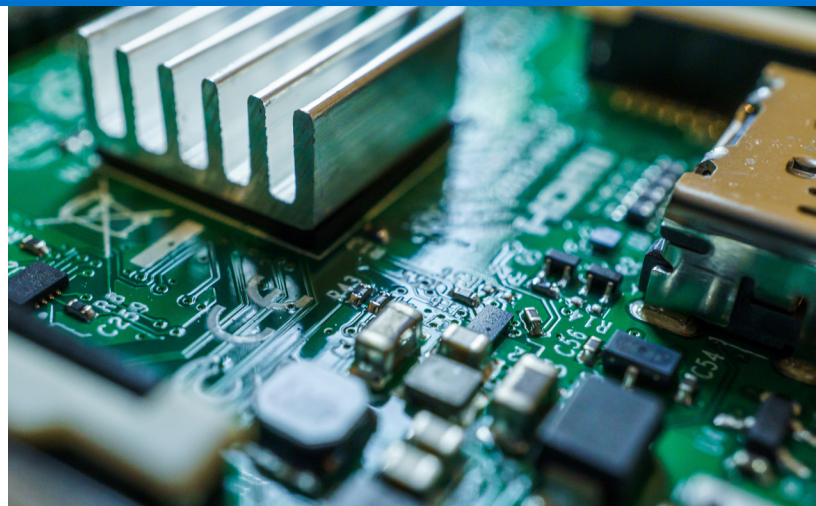


Information Technology Products

[MODEL SPECIFICATIONS](#) »

Product Subcategories Covered

- Computer - laptops, desktops, tablets
- Mobile phones
- Imaging equipment - printers, faxes, scanners, and multifunction devices
- Servers
- TVs and large digital displays
- Switching devices, networking hardware, and hardware components



Issues and Impacts

Progress in restricting chemicals. Progress has been made in restricting hazardous chemicals from finished products via restricted substance lists and regulations such as the EU's Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS) regulations.

Computers, imaging equipment and displays are the easiest subcategories for purchasers, featuring a wide variety of certified brands. Certifications are still under development for switching and networking hardware. Addressing the environmental impacts of servers is more complex and requires attention to other factors such as equipment configurations, heating and cooling systems for server rooms, and server virtualization (use of cloud-based servers).

Worker exposures. Despite progress, numerous chemicals of concern are still associated with the production of electronic

hardware. Worker exposure in production facilities and resulting health issues are very common. For example, over 300 cases of cancer and other serious exposure-related illnesses in electronics industry workers were extensively documented in South Korea.

Electronic waste. E-waste volumes are surging globally - up 21% in the five years up to 2019 to 53.6 million metric tonnes. That is as much as 350 cruise ships placed end to end to form a line 125 km long. This growth is projected to continue, but only 17.4% of e-waste produced in 2019 reached formal management or recycling facilities. The rest was illegally dumped, overwhelmingly in low- or middle-income countries, where it is recycled by informal workers. These workers, aiming to recover valuable materials such as copper and gold, are at risk of exposure to over 1,000 harmful substances, including lead, mercury, nickel, and flame retardants.

Chemicals of Concern

Solvents: Commonly used solvents in manufacturing include trichloroethylene, methylene chloride, perchloroethylene, trichloroethane, chloroform, toluene, acetone, glycol ethers, and xylene. The first four chemicals are carcinogens; toluene, acetone and xylene affect child development, and some glycol ethers cause organ toxicity and central nervous system effects.

Acids and alkalis: These broad groups of chemicals are used for electroplating, soldering, crystal polishing, and metal picking. They can cause serious burns if they come into contact with the eyes or skin. If vapors or mists are inhaled, they may burn the linings of the nose, mouth, throat, and lungs.

Metals: A wide variety of metals are used in IT equipment, including lead, cadmium, chromium and beryllium. Many are carcinogens and persistent bioaccumulative toxins that accumulate in animal tissues. Exposure occurs primarily through skin contact and inhalation of metal dusts and fumes.

Plastic resins: Inhalation or skin contact may occur when curing resins; cutting, heating, or stripping wires; or cutting, grinding or sawing a hardened product. Exposure to these substances may result in skin rashes and upper respiratory irritation. In some plastics, other toxic chemicals are used as stabilizers (such as lead) or plasticizers (such phthalates).

Halogenated flame retardants: Many kinds of flame retardants are used in plastic computer cases and on circuit boards - up to 25% by weight in cases. Flame retardants migrate out of electronics cases and into indoor dust, which is ingested by people and pets. Some of these chemicals are associated with lowered IQ in children, cancer, hormone disruption, and other serious health problems. Some flame retardants are also persistent bioaccumulative toxins that accumulate in the environment.

SPLC Recommendations

Procure certified products. EPEAT and TCO cover thousands of products and include requirements that limit toxics, improve recyclability, reduce waste, improve energy efficiency, and improve worker safety. ENERGYSTAR qualified products listings may be useful for large digital displays or other categories not well covered by the other certifications. Each has a directory of certified products; EPEAT also provides details on specific voluntary criteria that have been met. If using EPEAT, select the highest rated products in a given category that meets your organization's needs. You may also require that the products you meet EPEAT voluntary criteria related to hazardous chemicals (as opposed to only meeting the baseline required criteria).

Ask for a commitment to protect workers. Consider granting additional points to brands and suppliers involved in the CEPN Toward Zero Exposure campaign. Participation ensures that the brand or manufacturer is committed to safer workplaces, safer processes, and the elimination of hazardous chemical exposures.

Keep older products as long as possible. Develop a system for repurposing, refurbishment, resale or donation of used equipment, either within your own organization or by contracting with an IT asset disposition firm.

Push the envelope. For organizations with less demanding computer needs, refurbished or remanufactured equipment reduces the waste impact. One example is Circular Computing, which remanufactures IT hardware for resale to large organizations. Another novel option is paying to be "waste neutral," for example, by participating in Closing the Loop, which uses a small fee on new mobile phone purchases to fund collection and safe recycling of phones in countries without sophisticated recycling infrastructure. Both programs ensure that devices are refurbished or recycled in controlled environments, parts and materials are reused to the extent possible, and hazardous materials are properly handled.

SPLC Category Guidance

Check [SPLC's Sustainable Procurement Resources for Electronics/IT Hardware and Services](#) for model policies, strategies, case studies, and community discussions.

Resources

- [San Francisco's Green Technology Purchasing Policy](#) - Includes language for purchasers.
- [EPEAT registered products](#) - Computers/laptops/monitors, imaging equipment, servers, mobile phones, TVs and large digital displays, photovoltaic modules, and networking equipment
- [TCO certified products](#) - Computers/laptops/monitors, imaging equipment, servers, mobile phones, data storage, projectors, headsets, networking equipment
- [ENERGYSTAR qualified products](#) - Do not include chemical restrictions, but helpful for cases where few products are certified by EPEAT or TCO (such as large digital displays).
- [CEPN Toward Zero Exposure](#) campaign identifies manufacturers committed to safer workplaces