



# How the EPEAT Ecolabel Helps You Address Chemicals of Concern

*The EPEAT ecolabel empowers purchasers to meet their organizational sustainability goals through their purchasing decisions. Products available through EPEAT include computers, monitors, copiers, mobile phones, televisions, and servers. EPEAT is just one of several sustainable purchasing resources freely available from the Green Electronics Council (GEC).*

## Why are Chemicals of Concern a Sustainability Problem?

Concerns about the chemicals used in electronic products are related to the potential exposure risks throughout the product's lifecycle. Heavy metals and hazardous chemicals contained in electronic products not only pose a risk to workers in the manufacturing process, they can also create exposure risks for end-users and recyclers, as well as environmental contamination of our air, soil, and water at the end of their life if they are not properly disposed.

Workers involved in electronic product manufacturing risk exposure to chemicals like beryllium, frequently used in battery contacts and electronic connectors, which is a known carcinogen whose fumes and airborne particles pose lung cancer and other health risks. Both workers and end-users of electronics risk exposure to chlorinated and brominated flame retardants, substances used to inhibit the spread of fire in indoor products. These chemicals are highly



persistent and bioaccumulative and are not only found in electronic products but also in other everyday products. They can migrate out of consumer materials and contaminate the indoor dust found in our homes, cars, and offices. Exposure can lead to impaired brain functioning and can interfere with hormonal systems.

Recyclers risk exposure to cadmium and lead, chemicals that were used in old cathode ray tubes (CRT) found in computer and television monitors, which release toxic fumes during incineration, crushing, and smelting processes. CRTs in unmanaged landfills can leach these chemicals into our soil and water, creating a toxic exposure risk to humans, animals, and plants. Similarly, chemicals such as hexavalent chromium, a corrosion inhibitor on circuit boards, and mercury, can cause kidney and liver damage, as well as an impairment to the brain and nervous system development. Lastly, plastics made with chlorine and fluorine release dioxins and furans when burned as part of disposal. These are bioaccumulative chemicals that can cause cancer, reproductive and developmental problems, and alter hormone balance.

Through advances in technical specifications and environmental awareness, alternative chemicals have and continue to be created for use throughout the electronic product lifecycle. CRT televisions are no longer manufactured, and the use of mercury-free light-emitting diodes have become the norm in the production of flat panel displays. Because of regulations like the European Union's Restriction of Hazardous Substances (RoHS) Directive, and purchasers' use of the EPEAT ecolabel, the industry is identifying and implementing safer alternatives to chemicals of concern.

## How EPEAT-Registered Products Address Chemicals of Concern

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The EPEAT ecolabel has both required and optional criteria. The required criteria ensure that the product is credibly sustainable, and a product must meet every required EPEAT criterion to be considered an "EPEAT-registered" product. Optional criteria are additional criteria that a manufacturer can choose to have their product meet. By choosing to go beyond the required criteria, manufacturers show their commitment to addressing additional environmental and social impacts associated with their products. The more purchasers prefer products with optional criteria that address chemicals of concern, the faster we will have a world with safer chemicals used in and during the manufacture and assembly of electronic products.

Products from different EPEAT categories may address chemicals differently because each product category has product-specific criteria. These criteria are continuously reviewed and updated as new chemicals of concern and safer alternatives are identified.



## EPEAT Required Criteria Address Chemicals of Concern

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All EPEAT-registered products meet substance restrictions in internationally recognized regulatory requirements, such as the European Union Restriction of Hazardous Substances (RoHS) Directive, EU Packaging Directive, EU REACH, and the EU Battery Directive. Additionally, all EPEAT-registered products are required to eliminate or substantially reduce the use of bromine and chlorine without compromising the end-user safety benefits these chemicals provide. Products meeting EPEAT's brominated and chlorinated flame retardant reduction requirements still achieve fire resistance through improvements in product materials and design, including the use of inherently fire resistant metals such as steel and titanium. Lastly, EPEAT criteria require that manufacturers make information available to reuse and recycling facilities about materials and components that have hazardous characteristics or require special handling needs, reducing the risk of workers' exposure to chemicals of concern and environmental contamination.

## Using Optional EPEAT Criteria to Assess and Address Chemicals of Concern

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When IT manufacturers choose to meet optional EPEAT criteria that address chemicals of concern, purchasers not only have access to products that further reduce the levels and array of toxic chemicals in products, they also support the industry's shift to safer chemical alternatives.

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## Examples of optional EPEAT criteria that assess and address chemicals of concern include:

- Assessment of safer chemical alternatives for flame retardants and plasticizers using transparent, third-party tools such as GreenScreen® for Safer Chemicals
- Restriction on the use of chlorine compounds in processing packaging materials
- Increased restriction or elimination of cadmium, beryllium, bromine, and chlorine, lead, brominated flame retardants, chlorinated flame retardants, and polyvinyl chloride (PVC)



## Finding the EPEAT-Registered Products That Address Chemicals of Concern

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To find products designed to address chemicals of concern, purchasers can search the EPEAT Registry at [epeat.net](http://epeat.net). Optional criteria is located at the bottom of the FILTERS box by clicking on "VIEW ADVANCED SEARCH OPTIONS." Search results will include products that meet all of the selected optional criteria.

## Quantifying Your Positive Impact

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The Green Electronics Council provides an EPEAT Benefits Calculator that can quantify specific environmental and cost savings associated with the purchase of EPEAT-registered products including energy savings, greenhouse gas emission reductions, non-hazardous solid waste reductions, water consumption savings, acidification potential savings, smog formation potential savings, eutrophication potential savings, material conservation, cost savings for non-hazardous solid waste disposal, and energy cost savings. Additionally, the calculator measures avoided toxic substances, which are a direct benefit of both required and optional chemicals criteria.

GEC developed the EPEAT Benefits Calculator with the support of the Eastern Research Group (ERG). ERG previously developed and maintained the US EPA Electronics Environmental Benefits Calculator. GEC established an external technical review panel comprised of representatives from government, academia, research institutes, industry, and organizations purchasing IT products to review the data, assumptions, and analysis underlying the benefits calculator.

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**Need assistance connecting your organization's sustainability priorities to EPEAT criteria?**

Contact [PurchaserResources@greenelectronicscouncil.org](mailto:PurchaserResources@greenelectronicscouncil.org)