

HP Responsible Chemistry Timeline - August 2024



For more than two decades, HP has worked to move the electronics industry toward safer alternatives to materials of concern.

The HP materials and chemical management policy—which applies to all HP employees, businesses, and suppliers—guides our use of materials and chemicals in products, packaging, and manufacturing processes. HP is a leader in reducing chemicals of concern, beginning our work in 1992 with the launch of the Design for the Environment program. We initiated our General Specification for the Environment (GSE) in 1998 and update it annually to reflect new regulations and to advance the latest in safe alternatives. The GSE includes a full list of material restrictions for products, packaging, and manufacturing process chemicals, often going beyond worldwide regulatory requirements. See the Responsible Chemistry Timeline (Figure 1) for key milestones in this area and Table 1 for a list of proactive substance restrictions in HP's products, packaging, and manufacturing processes.

HP actively influences and contributes to standards, emerging legislation, and improved approaches to the use of materials in the IT sector. Notably, HP was the first corporation to adopt GreenScreen® for Safer Chemicals and was a founding member of both the Green Chemistry & Commerce Council (GC3) and the BizNGO working group. HP helped to develop and pilot the Chemical Footprint Project (CFP) in 2013 and has participated in the assessment since 2016. In 2016 we joined the Clean Electronics Production Network (CEPN) to protect workers from chemical hazards in the electronics supply chain, and in 2018 donated HP's Alternatives Assessment Guide to CEPN.

Finding alternatives to Lead (Pb), Brominated Flame Retardants (BFRs), and Polyvinyl Chloride (PVC) proved challenging, but HP collaborated with organizations, including the International Electronics Manufacturing Initiative (iNEMI), GC3, Clean Production Action (CPA), and BizNGO to succeed in this endeavor. HP has advocated for legislation to restrict hazardous chemicals because, even though alternatives have been identified for many applications, barriers to adoption remain that include increased cost or limited availability. Without regulatory restriction, widespread adoption of the safer alternatives will not be possible. We have also contributed to standards, legislation, and improved approaches to materials use in the IT sector to ensure they align with environmental benefit, such as including a preference for safer alternatives in order to avoid regrettable substitutions. We have worked to incorporate safer chemicals and GreenScreen into eco-labels, such as TCO and EPEAT. Recently, we've participated in the latest EPEAT revision to add requirements for process chemicals and improve the product chemical criteria.

Figure 1. Responsible Chemistry Timeline

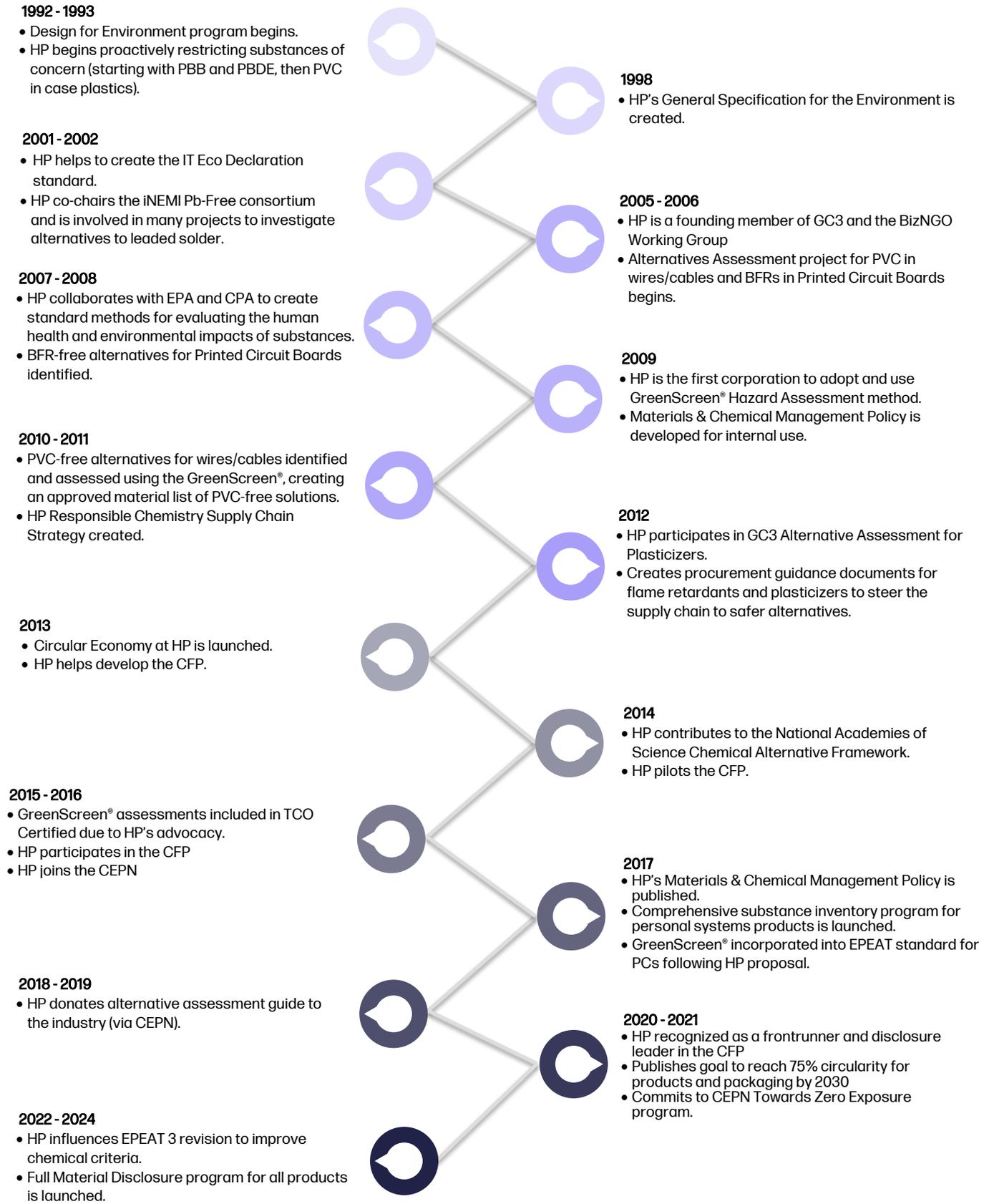


Table 1. HP proactive materials restriction/substitution timeline

Substance / Material	Scope	Date ¹
1-Bromopropane (n-propylbromide)	Do not use in manufacturing processes	2016
Antimony	Bleached paper ²	2012
Antimony and its compounds	All PCs and displays	2022
Antimony Trioxide	Low halogen products ²	2011
Arsenic / Arsenic compounds	All products	2009
Benzene	Do not use in manufacturing processes	2015
Beryllium / Beryllium compounds	All products (with exemptions)	2010
	Personal Computing (PC) products (without exemptions)	2019
Bis(2-methoxyethyl) ether (DEGDME)	All products	2017
Bisphenol-A	Thermal paper	2011
	External plastics	2016
Cadmium	All products (with exemptions)	1996
	All products (only exemption for industrial printers)	2016
Chlorinated hydrocarbons	Do not use in manufacturing processes	2015
Chlorinated paraffins, medium chain (MCCPs)	Low halogen products ²	2013
Chlorinated paraffins, short chain (SCCPs)	All products	2002
Chlorine	Bleached paper ²	2012
Cleaning solvents	Product and PCB process cleaning solvents must appear on the TCO Accepted Substances List for PC and Display products ²	2021
Cobalt dichloride	Desiccants and humidity indicators	2012
Cyclohexane	Do not use as a cleaner, degreaser, or mold release agent	2016
Ethylene glycol ethers	Do not use in manufacturing processes	2017
Flame retardants, polybrominated biphenyls (PBB) / polybrominated diphenyl ethers (PBDE) (including DecaBDE)	All products	1991
Flame Retardants, Chlorinated (CFRs)	External case plastics	2007
	Plastic parts >0.5g in PC and Display products ²	2018
Flame Retardants, Brominated (BFRs)	External case plastics	2007
	PC products ²	2009
	Desktop & All-in-One PC external power supplies ³	2017
	Plastic parts >0.5g in PC and Display products ²	2018
	Notebook PC & Tablet external power supplies ³	2019
Flame Retardants, Halogenated and Non-halogenated	Product housing >0.5g and power supply PCB must only contain non-halogenated flame retardants and they must appear on the TCO Accepted Substances List for PC and Display products ²	2019
Hexabromocyclododecane (HBCDD)	All products	2012
Hexane, branched and linear	Do not use in manufacturing processes	2015
Hexavalent Chromium	All products	2004
Isocyanates	Wearable EEE devices	2022
Lead / Lead compounds	External Cables	2003
	All products	2004
Mercury / Mercury compounds	All products (except bulbs)	1998
	Notebook PCs	2008
	Remaining uses in lamps and LEDs	2022
Methanol	Do not use as a cleaner, degreaser, or mold release agent above 10% by volume	2015
	Do not use as a cleaner, degreaser, or mold release agent	2023
N-Hexane	Do not use in manufacturing processes	2015
N-Methyl-Pyrrolidone	Do not use as a cleaner, degreaser, or mold release agent	2023
N,N-dimethylacetamide (DMAC)	All products	2018
Nonylphenol Ethoxylates (NPEs)	Commercial PC products	2015

¹ Dates refer to when proactively adopted materials restrictions were first introduced on a HP product, ahead of regulatory requirements. For a comprehensive list of HP's materials restrictions, including numerous materials restricted by HP on a worldwide basis in response to regional regulations, refer to HP's General Specification for the Environment.

² These requirements apply only when designated by specific HP business units.

³ Includes printed circuit boards (PCBs) and enclosures.

Substance / Material	Scope	Date ⁴
Ozone Depleting Substances (ODS)	All products and manufacturing processes	1993
Perfluorinated Compounds (Per- and polyfluoroalkyl substances (PFAS))	Packaging	2021
Perfluoroheptanoic Acid (PFHpA)	All products	2022
Plasticizers	Cables (DEHP, DBP, BBP, DIBP)	2010
	Non-EEE products (DEHP, DBP, BBP, DIDP, DnHP)	2011
	Commercial PC products (DEHP, DBP, BBP, DIBP)	2012
	Packaging (DEHP, DBP, BBP, DIBP)	2013
	Commercial PC products (DINP, DIDP, DnOP, DnPP, DnHP, DMEP, DPHP)	2014
	Inkjet printers (DEHP, DBP, BBP, DIBP)	2016
	Product housing and cables/wires must contain plasticizers on the TCO Accepted Substances List for PC and Display products ²	2019
Polycyclic aromatic hydrocarbons (PAH)	External rubber or plastics	2008
Polyvinyl Chloride (PVC)	External case plastics	1993
	Packaging	2006
	PC products ⁵	2008
Toluene	Do not use as a cleaner, degreaser, or mold release agent	2015

Learn more at
hp.com/sustainableimpact

⁴ Dates refer to when proactively adopted materials restrictions were first introduced on a HP product, ahead of regulatory requirements. For a comprehensive list of HP's materials restrictions, including numerous materials restricted by HP on a worldwide basis in response to regional regulations, refer to HP's General Specification for the Environment.

⁵ These requirements apply only when designated by specific HP business units.