



TOWARD ZERO EXPOSURE
Clean Electronics Production Network

A COMMITMENT PROGRAM
TO PROTECT WORKERS
FROM CHEMICAL HAZARDS IN
THE ELECTRONICS SUPPLY CHAIN

2021/22
Our First
Annual Report



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Welcome

We are excited to present our first annual report of the Toward Zero Exposure program, showcasing the impact the program has already had, as well as our plans for more progress protecting workers from exposure to hazardous process chemicals in the electronics supply chain.

We are humbled to embark on this journey with our incredible Founding Signatories and Clean Electronics Production Network (CEPN) members and welcome others to join us. These leaders have committed to real, meaningful and transformational change in electronics workers' lives, across the globe and into their deep and complex supply chains.

“A safe, healthy work environment is a basic human right. Protecting workers from exposure to hazardous process chemicals is the right thing to do.”

Founding Signatories, Apple, Dell and HP Inc. are unlocking huge gains with aligned actions that send clear coordinated signals through the electronics supply chain knowing that progress requires coordinated action.

In the year ahead, we will move forward from this foundation and build on the impact we have already made. We welcome companies who share the values of our Founding Signatories to join us in this urgently needed transformation.

Protecting Workers

Collaborating to Unlock Progress

Protecting workers from exposure to hazardous chemicals is a complex, global issue which stretches throughout a supply chain that is shared and globally distributed. [Clean Electronics Production Network](#), a multi-stakeholder innovation network launched in 2016, unites diverse stakeholders including electronics industry brands and suppliers, labor and environmental advocates, governments and other leading experts to collaboratively understand, address and eliminate workers exposure to hazardous chemicals in electronics production.

CEPN members launched the Toward Zero Exposure program in August 2021 to integrate and accelerate the work being done by leaders in the electronics industry with the tools developed by the Network.

Working together, companies will accelerate moving the electronics industry to a safer supply chain.

[Toward Zero Exposure](#) is a commitment program to protect workers from chemical hazards in the electronics supply chain, enabling progress on a complex issue no individual leader can solve alone.

This program is designed to support electronics companies in assessing process chemical use, strengthening the culture of worker safety and engagement, and eliminating worker exposure to priority process chemicals both within their own manufacturing processes and deeper into their supply chain.

The core building blocks include six overarching commitments that companies make with their participation, as well as requirements and verification to document how companies implement the commitments.

“
FROM OUR SIGNATORY, HP INC.

As a part of CEPN's Toward Zero Exposure program, we have the opportunity to leverage best practices and take collective action to protect workers in our global supply chain from exposure to hazardous process chemicals. — HP Inc.



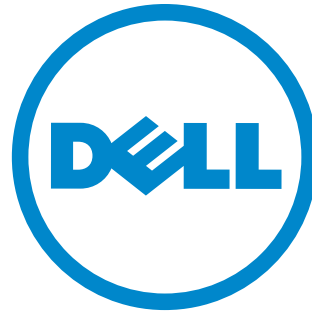
Commitments
companies
make with their
participation



Companies
collaboration
unlocks progress



Requirements
and verification
demonstrate how
companies implement
the commitments



Our Signatories

As Founding Signatories, Apple, Dell Technologies and HP Inc., commit to accelerating existing efforts in chemical safety and boosting awareness of the need to improve chemical management practices across the global electronics industry to eliminate workers' exposure to hazardous chemicals.

This program provides a structure for Signatories to align practices, tools and priorities, not only making protecting workers more achievable, but also helping to boost efficiency and ease documentation, strengthening the credibility of progress being made to protect workers.



Toward Zero Exposure welcomes all companies in the electronics supply chain. Send an email to info@towardzeroexposure.org to learn more about becoming a Signatory.



At Apple, people come first in everything we do. This means upholding the highest standards of labor and human rights, health and safety, and environmental stewardship everywhere that our global supply chain reaches.

For many years, we have worked to advance standards for smarter chemistry and safer alternatives. This is why we are proud to be founding signatories of the Toward Zero Exposure program and members of the CEPN Design Team, where we contributed to the development of CEPN's priority chemicals list. We look forward to CEPN's continued expansion, as we work together to safeguard the health and wellbeing of people across the electronics industry.

— **Kathleen Shaver,**
Director, Environment and Supply Chain Innovation,
Apple



Dell Technologies operates one of the largest social and environmental responsibility assurance and engagement programs in the technology sector. The company makes operating its supply chain responsibly a priority and actively works with suppliers to help ensure safe use of process chemicals.

With the power of its global supply chain, Dell has the scale and ability to drive responsible manufacturing and insists upon ethical practices, respect and dignity for everyone creating its products as a condition of doing business.

Dell collaborates with CEPN to advance industry efforts to protect supply chain workers from potentially harmful process chemicals. Dell's ongoing participation with CEPN helped drive the development of the Toward Zero Exposure program, which the company joined as a Founding Signatory in 2021.

Dell is one of the world's leading technology companies and is a leader in responsible and sustainable manufacturing processes.

— **Macani Toungara,**
Director, Social and Environmental Responsibility,
Dell Technologies

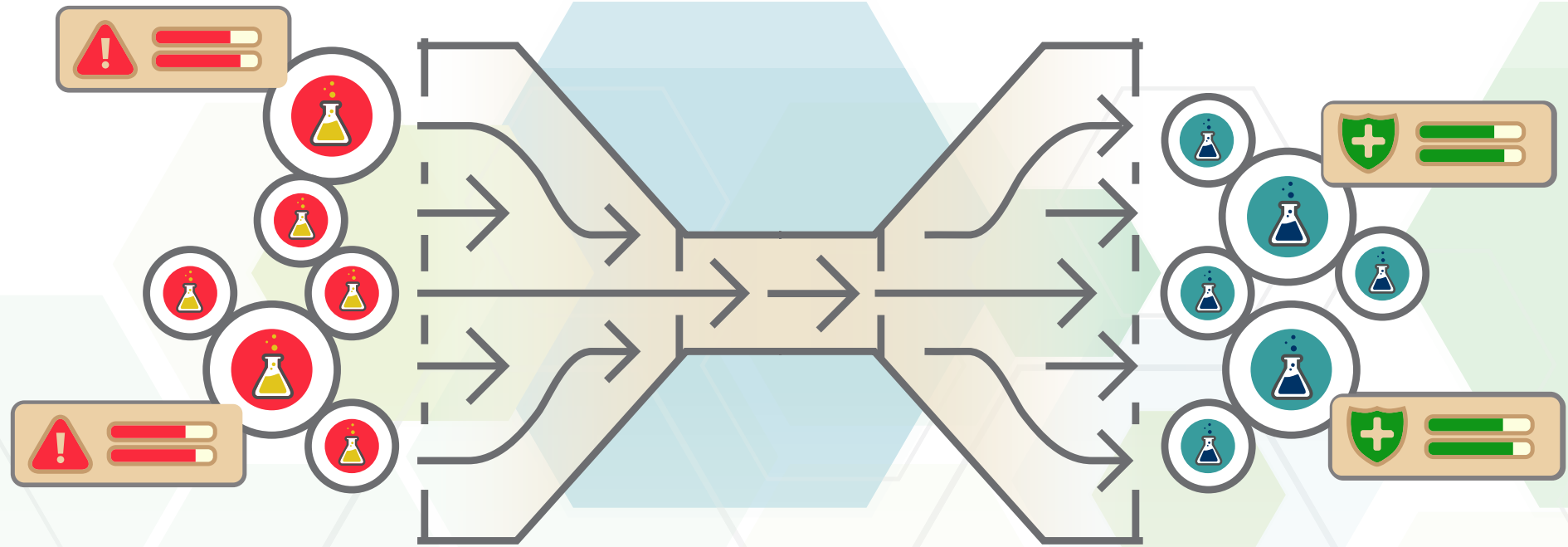


HP Inc. aspires to a world where its products and operations use materials and chemicals that cause no harm. Becoming a Founding Signatory of the Toward Zero Exposure program signals and affirms HP's clear commitment to protecting workers in its supply chain from hazardous process chemicals.

Our company has worked for decades to shift the electronics industry away from chemicals of concern to safer alternatives. HP is a founding member of CEPN and in 2021 joined the Toward Zero Exposure program, committing to take collective action to protect workers. HP relies on one of the IT industry's largest supply chains and actively works to improve labor conditions within supplier factories.

Through HP's focus on Sustainable Impact, the company capitalizes on what it does best, while addressing global challenges.

— **Kirsty Stevenson,**
Head of Human Rights,
HP Inc.



Making Progress on a Complex Issue

In one short year, the Toward Zero Exposure program and its Signatories' actions have shown results, both directly removing exposure to hazardous chemicals and making a difference in how other global organizations measure, track and communicate about process chemicals.

Signatory Leadership Toward Program Goals

Hundreds and thousands of workers who manufacture the world's electronics are safer and healthier because of the efforts these Signatories have undertaken themselves and influenced among their suppliers and peers.

FACILITIES: CHEMICAL SUBSTITUTION

Over 600 facilities in the Signatories' manufacturing supply chains are estimated to have already substituted the 1st Round of Priority Chemicals.

WORKER SAFETY: CHEMICAL SUBSTITUTION

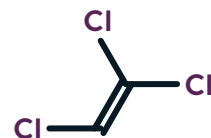
Thousands of employees work in production in these facilities that have already substituted the 1st Round of Priority Chemicals.

FACILITIES: DATA COLLECTION

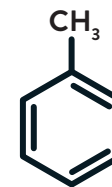
More than 1,000 facilities in the Signatories' manufacturing supply chains have already collected data on process chemical use with the Process Chemical Data Collection Tool (or equivalent).

Note: These statements are based on data reported by Signatories and compiled and aggregated by CEPN.

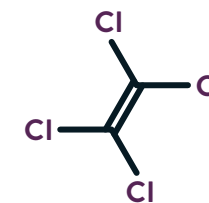
First Round of Priority Chemicals



TRICHLOROETHYLENE
CAS #127-18-4



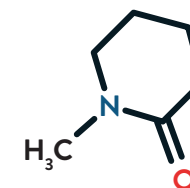
TOLUENE
CAS #108-88-3



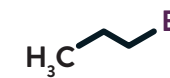
TETRACHLOROETHYLENE
CAS #79-01-6



N-HEXANE
CAS #110-54-3



N-METHYL-PYRROLIDONE
CAS #872-50-4



1-BROMOPROPANE
CAS #106-94-5



METHANOL
CAS #67-56-1



DICHLOROMETHANE
CAS #75-09-2



BENZENE
CAS #71-43-2

CEPN has identified a first round of Priority Chemicals — process chemicals to be prioritized for elimination or substitution in electronics manufacturing. The first round of Priority Chemicals includes nine solvents used in manufacturing cleaning products. CEPN members are working to identify the next round of Priority Chemicals.

Influence

Toward Zero Exposure's guiding principles, commitments and tools have been adopted by many influential organizations working on topics surrounding chemicals and worker health and safety.

Safer Alternatives Development

Several assessment schemes are in the process of certifying safer manufacturing cleaning products to assist the electronics industry in finding and selecting safer alternatives. There are already 17 [GreenScreen Certified™ for Cleaners & Degreasers in Manufacturing*](#), 11 [ToxFMD Certified cleaning products](#), and one [Scivera Lens](#) certified electronic component process cleaner, and we expect more to be added. Additionally, TCO Certified has an extensive [list of accepted substances](#) approved for use in the products and manufacture of their certified products.

Priority Chemicals List

Some of the electronics industry's most influential organizations have adopted CEPN's nine first-round [priority chemicals](#).

- The **Responsible Business Alliance (RBA)** included CEPN's nine Priority Chemicals in its [Industry Focus Process Chemicals List \(IFPCL\) Policy](#), which requires higher levels of control, like engineered isolation or elimination, for these chemicals..
- Nine of the sixteen chemicals featured in **Electronics Watch's** [Guidance for Public Buyers](#) are CEPN Priority Chemicals.
- CEPN's Priority Chemicals are also included as a restricted substance list in **Healthy Building Network's** [Pharos](#) database, offering broad access to this information on toxic solvents used in manufacturing cleaning products.

Process Chemical Data Collection (PCDC) Tool

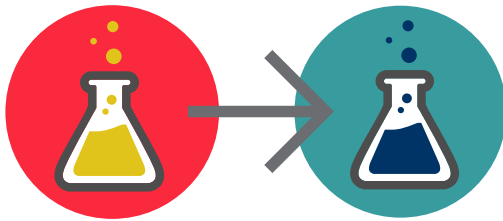
TCO Certified's [generation 9](#) process chemicals criterion requires use of the [PCDC Tool](#) to submit information on the management of process chemicals, allowing TCO Certified to gather relevant and important information quickly and supporting development of its accepted substances list.

*GreenScreen Certified™ is a registered trademark of Clean Production Action



Broadening and Deepening Impact and Alignment

With each year, the program will broaden and deepen the impact and alignment of companies within the electronics supply chain. In the program's second year, Signatories will continue to focus – inside of their own manufacturing sites as well as selected supplier facilities – on:



ELIMINATING OR SUBSTITUTING

the first nine priority chemicals, as CEPN members develop the second round of priority chemicals to be announced in 2023



COLLECTING DATA

on company and supplier facility use of manufacturing process chemicals



EXPANDING WORKER ENGAGEMENT

and participation in protecting their health by piloting worker training and worker surveys, and creating Joint Chemical Safety Committees



Join the Journey

Global organizations including the United Nations are increasingly emphasizing the importance of a safe and healthy working environment as a basic human right. The UN's International Labour Organization in June added the principle of a safe and healthy working environment to its Fundamental Principles and Rights at Work.



FROM OUR SIGNATORY, DELL TECHNOLOGIES

With the experience of conducting approximately 400 comprehensive supplier audits per year, Dell brings the knowledge and capability to bring best practices to scale.” – Dell Technologies

The **Toward Zero Exposure** program was created to support companies in protecting workers.

Aligning practices, tools and priorities not only makes protecting workers more achievable, such coordination also stands to boost efficiency and ease documentation, and strengthens the credibility of progress being made to protect workers. The program’s tools optimize and streamline the complex and time-consuming tasks of monitoring, documenting and communicating process chemicals data.

Signatories are members of a community of leaders who share a strong and valuable commitment to protect workers from hazardous process chemicals. Participants will realize efficiencies in their processes by working with a unified playbook shared among their counterparts, suppliers and customers. Companies with excellent health and safety practices see advantages in day-to-day operations as well as recruitment and retention.



Toward Zero Exposure welcomes all companies in the electronics supply chain. Send an email to info@towardzeroexposure.org to learn more about becoming a Signatory.

Companies joining this transformational effort will:

- **Affirm a commitment to human rights** and protecting workers from exposure to toxic chemicals
- **Proactively move the electronics industry** to a safer supply chain
- **Effect systemic change** as an alliance of stakeholders with a unified vision
- **Differentiate and earn competitive advantage** in the marketplace



Uniting Companies in the Electronics Supply Chain



FROM OUR SIGNATORY, APPLE

At Apple, we're committed to continually advancing the use of safer materials in the manufacturing of our products. This commitment requires diligent work with our suppliers to build a comprehensive picture of chemical use across our supply chain, to insist on rigorous chemical safety management practices, to promote the adoption of safer alternatives, and to drive innovation in manufacturing practices. — Apple

Toward Zero Exposure

The Toward Zero Exposure program unites companies throughout the electronics industry in a journey to reduce worker exposure to hazardous chemicals. The program is built with commitments that companies make with their participation and requirements and verification documenting how companies implement the commitments. The program welcomes all companies – brands and suppliers – in the electronics supply chain.



FROM OUR SIGNATORY, HP INC.

Participating in the Toward Zero Exposure program will support HP's aim to be the world's most sustainable and just tech company – which includes taking urgent action to combat climate change, protect human rights, and accelerate digital equity.

– HP Inc.

Commitments

Signatories pledge to act in six areas:



1. Eliminate Exposures to Priority Chemicals

Protect workers from exposure to Priority Chemicals in the electronic supply chain, prioritizing elimination or substitution with safer alternatives and protecting workers until that is achieved



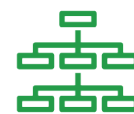
2. Process Chemical Data Collection

Collect data on company and supplier facility use of process chemicals to support collective mapping across supply chains



3. Worker Engagement and Participation

Build safety culture around process chemical management through support for the maturation of governance systems that protect the health of workers, where workers are consulted, informed and actively participating



4. Reach Deeper into Tiers

Work with selected suppliers to join the Commitment Program to reduce worker exposure to toxic chemicals in the extended electronics supply chain



5. Verification and Reporting

Ensure progress toward implementing the Commitments through verification and annual reporting to workers and the public



6. Continuous Improvement

Drive ongoing improvement across all commitment areas

Verification and Reporting

The verification and reporting of the Toward Zero Exposure program upholds the principles of credibility and transparency through regular public reporting of program activities. This voluntary program is a journey – not a pass/fail certification – supporting Signatories in their good faith effort and continuous improvement.

“ FROM OUR SIGNATORY, DELL TECHNOLOGIES

We are committed to protecting workers and did not see a path to effectively do that by ourselves. Protecting workers from process chemicals entails complicated, long-term solutions. We are thankful to be part of this program – collaborating with other leaders in the industry to make change happen.”

– Dell Technologies

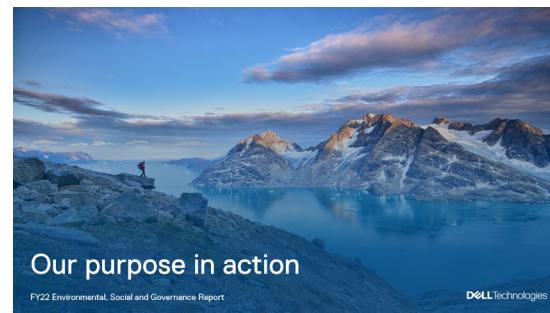
Our Signatories' Sustainability and Social Responsibility Reporting



Apple Environmental Progress Report, 2021



Apple Annual Progress Report, 2021



Dell Technologies Social and Governance Report, FY22



HP Inc. Sustainable Impact Report, 2021

Supporting Sustainable Development Goals

Another way Toward Zero Exposure program supports companies is by supporting several of the United Nation's Sustainable Development Goals, including:

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

The Toward Zero Exposure program commitments, especially regarding Worker Engagement and Participation, help protect labor rights and promote safe and secure working environments.

Ensure healthy lives and promote well-being for all at all ages

By eliminating or substituting the Priority Chemicals from manufacturing, program Signatories help reduce impacts from hazardous chemicals.

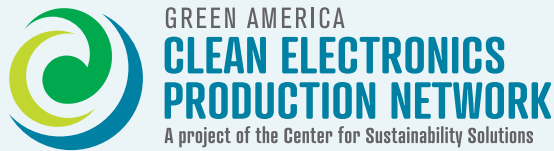
Ensure sustainable consumption and production patterns

The Toward Zero Exposure program promotes sound management of chemicals to minimize their adverse impacts on human health, encourages companies in the electronics supply chain to adopt sustainable practices and to integrate sustainability information into their reporting cycle, and promotes sustainable public procurement practices.

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

The Toward Zero Exposure program encourages developing effective, accountable and transparent practices throughout the electronics industry.





ABOUT THE CLEAN ELECTRONICS PRODUCTION NETWORK (CEPN)

[The Clean Electronics Production Network](#) unites diverse stakeholders to understand, address, and eliminate workers' exposure to toxic chemicals in the electronics supply chain. The collaborative multi-stakeholder innovation network launched in 2016 as part of the Center for Sustainability Solutions at Green America. The Network addresses complex workplace health and safety challenges in the electronics supply chain, and developed the Toward Zero Exposure program to integrate and accelerate their work.

[More than 20 member organizations make up the network](#), including electronics brands and suppliers, environmental NGOs, labor and worker representatives, ecolabels and representatives from academia and government agencies.

CEPN members commit to working together in the service of a shared goal of moving toward zero exposure of workers to toxic process chemicals in electronics manufacturing.



ABOUT GREEN AMERICA'S CENTER FOR SUSTAINABILITY SOLUTIONS

[Green America's Center for Sustainability Solutions](#), CEPN's parent organization, brings together diverse groups of stakeholders to solve the complex sustainability problems that no individual business, organization, or leader can solve alone. The Center's goal is to shift whole industries and sectors toward social, environmental and economic sustainability.



towardzeroexposure.org



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