



Business Guide to Safer Chemicals in the Supply Chain

Including alternatives assessment

Hewlett Packard: strong awareness

The electronics company looks at regulatory and other drivers, such as green procurement and ecolabelling, for direction on safer chemicals. It then looks carefully at alternatives to substances of concern to ensure they really are better.

For an electronics company like Hewlett Packard (HP) – which carries out its business in 170 countries and delivers one printer and three PCs every other second – complying with chemical regulations is a necessity.



However, for a global consumer company like HP, regulatory obligations are only a part of the equation. The company's European environment manager, Hans Wendschlag says he does not treat regulations

individually, instead he deals in what he calls "market requirements".

And, he adds, there are many of them. As well as regulations, there are a variety of voluntary and market-based standards that are equally important to address in order to compete in the fast-paced electronics industry.

To tackle the increasing number of chemical-related standards and regulations across the globe, HP has set out a process for identifying chemicals of concern, finding alternatives and introducing them into products and the market place.

It starts with a strong awareness of "policy instruments" – the regulations and voluntary standards around the world that cover the electronics industry and its products, says Mr Wendschlag.

In addition to the EU's REACH and RoHS regulations, HP aims to meet the criteria of a number of eco-labels, such as the Swedish TCO, the German government's Blue Angel and US-based Green Electronics Council's EPEAT. Many eco-label schemes include requirements around chemicals of concern in products

Careful use of voluntary approaches

HP's materials strategy states that it supports ecolabel and green procurement criteria that restrict the use of certain substances and materials from use when they are:

- » scientifically proven to be a risk through recognised and published studies;
- » restricted by internationally-recognised laws; or
- » when a technically feasible alternative exists that has shown to be safer for use and has lesser impact on the environment throughout the product life cycle.

Although meeting the criteria is a challenge, these voluntary standards act as beacons to highlight what chemicals could be next on the regulatory radar and help the company prioritise substances to substitute.

Once substances are selected, the company sets out to find replacements. Since 2008, HP has worked directly with producers of non-halogenated flame retardants, phthalate alternatives and other chemicals of concern, to accelerate the rate of substitution.

When working with producers, HP asks them to share all of the available eco-toxicological data about their alternatives.





This is not easy to achieve, says Mr Wendschlag, because the producers have to consult with other departments and then decide who will sign off the toxicological data. "Before we have been given this data, non-disclosure agreements (NDAs) have to be signed," he adds.

Assessing flame retardants and phthalates

In assessing alternatives, the company has been using GreenScreen, a methodology developed by NGO Clean Production Action for comparative chemical hazard assessment since 2008 (see page 22).

Since then, it has assessed more than 160 substances, including all commercially-available non-halogenated flame retardants and phthalate replacements.

Identifying and assessing alternatives can be time consuming, says Mr Wendschlag. But the bigger issue lies in the costs related to substitution. HP calculates that it costs \$5m-10m to substitute one chemical. Making this

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effort up front, however, pays off in the long term, he says. "Though, it is a challenge to convince a product manager when you tell them a circuit board, for example, with a different flame retardant, will cost 5-10% more."

In searching for safer alternatives, the company assessed a number of non-halogenated flame retardants and plasticisers. Of the 45 non-halogenated flame retardants evaluated, 30 were acceptable but only one was

designated as 'preferred' by an internal GreenScreen assessment; 15 had undesirable environmental properties or major data gaps.

For plasticisers, 11 were acceptable but there were no 'preferred' alternatives and 12 to avoid. Almost all of the assessed alternatives, including those identified as substances to avoid, are accepted by most eco-label organisations as 'greener' alternatives, he notes.

Eco-labels and alternatives

Mr Wendschlag says it appears that some eco-label organisations are approving alternatives without properly checking the data.

In 2013, HP published a list of GreenScreen assessed non-halogenated flame retardants and plasticisers replacements. And via NDAs, all of the company's suppliers have access to this information. The lists contain GreenScreen assessment results with recommendations on what, and what not, to use.

Mr Wendschlag says that since making these lists available the company now has "many commercial Notebooks and displays on the market" which use the recommended safer alternatives.

In communicating alternatives information to consumers, HP uses the IT Eco Declaration, the ECMA-370 standard, because it:

- » is the most frequently downloaded HP environmental document, some 20,000 annually;
- » shows detailed environmental properties on the product model level; and
- » allows entry of additional company specific environmental information, not covered by the standard.



Three challenges remain in progressing the substitution process

- » National chemical authorities have “so far shown little interest in substitution” and state that it is solely the responsibility of the industry. But change is afoot. He points to the example of the Danish Environmental Protection Agency, which this year is setting up a substitution competence centre.
- » Eco labels have banned materials and substances with “little considerations” about the replacements, he says. In showing that change is occurring here too, Mr Wendschlag uses the example of Sweden’s TCO standard, which is adopting the GreenScreen methodology and has already published a list of acceptable non-halogenated flame retardants that meet GreenScreen Benchmark 2 or better.
- » Finally, in general chemical producers, he says, are not willing to invest in substance testing beyond REACH. However, he adds, some have made the investment as they see the advantage that the probability is low for future restrictions if the alternative can be demonstrated to have better properties.

The declaration, however, does not include the GreenScreen assessment benchmark, but Mr Wendschlag says that in the future it most likely will. “It is not enough to just say what has been phased out, I’m quite certain that customers want to know what is being used instead.”

He adds that none of the current eco labels are suitable for customer communication. This, he says, is because only the label is visible, not the criteria. He also says that a more serious issue is that their compliance verification requirements are “very poor”.

Communication is important, particularly with a growing consumer interest in environmental and health issues, says Mr Wendschlag.

Carrying out research on 700 ‘green’ tenders in Europe, Middle East and Africa, the company found that while energy efficiency is the most important attribute in its products, chemical substance content is the second. “This highlights how complying with regulation is not enough – our customers want us to go beyond regulation and this requires strong action towards substitution to safer alternatives.”

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