

# UNDERSTANDING CHEMICALS IN PRODUCTS

Policy Brief, November 2019

*The Strategic Approach to International Chemicals Management (SAICM) is a catalyst, connecting sectors and stakeholders, towards the goal of a chemical-safe, clean and healthy future by 2020. Strategic Approach stakeholders are currently reviewing the approach for the sound management of chemicals and waste beyond 2020, future objectives and milestones are to be informed by the 2030 Agenda for Sustainable Development. This policy brief provides insights that are intended to inform related stakeholder discussions.*

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## BACKGROUND

The transparency of information about chemicals in global supply chains has been an emerging policy issue for the Strategic Approach to International Chemicals Management (SAICM) since 2009, leading to programmes such as the UNEP Chemicals in Products (CiP) Programme. The CiP programme focuses specifically on the textiles, toys, electronics and building materials sectors.

Information exchange in the value chain is key in identifying and addressing any chemicals of concern<sup>1</sup> in products. Brands and retailers frequently lack crucial knowledge about the properties and risks of chemicals used to manufacture products or are direct ingredients of the products. They are not fully aware of whether harmful chemicals are contained in the finished products they sell.

Beyond the supply chain, consumers are asking for more user-friendly, easily accessible and appropriate information on chemicals throughout the chemicals' life-cycle.

To safely manage chemicals of concern, it is necessary to identify during which life-cycle stage (e.g., production, product use, disposal) hazardous chemicals in products can result in adverse human health and environmental impacts, and target solutions adopting a life-cycle approach.

**In this policy brief, a contribution from the GEF-funded project on « Global Best Practices on emerging chemical policy issues of concern under SAICM », we discuss chemicals in products and what the project is doing to minimize the adverse effects of chemicals of concern.**

**One of the main components of the project, « life cycle management of chemicals present in products », is developing new tools and guidance to reduce the use of chemicals of concern in the building materials, electronics and toys sectors. It also provides training and support for government and value chain actors to trial and adopt new guidance and tools.**

<sup>1</sup> SAICM prioritizes certain chemicals due to their inherent hazardous properties which have the potential to harm the environment and cause adverse impacts on human health. These chemicals are called 'Chemicals of Concern'.

# THE ISSUE

In 2015, the SAICM community welcomed the Chemicals in Products programme as a means to progress action on information needed to manage chemicals, contained in manufactured products and proposed cooperative actions to address gaps in the current levels of information access. Work is focused on the priority product categories of **electronics, toys, building products and textiles**. To date, documentation of hazardous chemicals often does not exist, and even when information about chemicals in products is available, it is often not made available outside supply chains or used for sound management.



## GENERAL OVERVIEW

Chemicals of concern often enter the life-cycle of toys during the production of plastic (for plastic toys), during painting and coating (for wooden toys in particular), or through recycled materials.



## KEY ISSUES

Exposure to hazardous substances in toys can result in long-term health effects for children, such as interference with the hormone system or the ability to learn. It can also affect the health of workers.



## CHEMICALS OF CONCERN (EXAMPLES)

POPs from recycled plastic  
Polyfluorenes in textile toys  
Cadmium in batteries  
Lead paint used for toys

## TOYS



Electronics is a growing sector. Electronics contain valuable materials such as metals, making recycling attractive. Reuse and repair are also quite common, especially for high-value products such as medical equipment.

There are potential adverse effects during the end-of-life stage and production stage. E-waste is often shipped to developing countries, where workers recovering valuable resources are exposed to toxic substances.

Flame retardants in insulation  
SCPP in coatings, cables  
Mercury in switches  
Worker exposure to benzene in factories

## ELECTRONICS



Potential sources of hazardous chemicals include the use of recycled materials and performance-enhancing substances. It is costly to remove building materials containing hazardous chemicals and treat waste.

The use of hazardous chemicals in building materials may affect construction workers and expose building inhabitants over a long period of time to indoor pollution, with subsequent health effects.

Asbestos  
Preservative treatment in outdoor wood  
Mercury in lighting  
Lead in paint

## BUILDING MATERIALS



Textiles production (e.g. for clothing) has skyrocketed recently, increasing the reach of potential sources of hazardous chemicals such as stain resistance coatings, plastics, and pesticides from cotton production.

Some hazardous chemicals in textiles may persist in the environment, build up in the body, and affect immune and reproductive systems. However, multiple sustainable alternatives exist to these chemicals.

Polyfluorenes for stain resistance  
Pesticides from cotton  
Perchloroethylene ("perc") in dry-cleaning fluid  
Plastic microfibres shed during the washing

## TEXTILES



# TOOLS

Measures to reduce chemicals of concern need to be based on **Legislation and Information System Tools**. These tools include legal regulations, standards and certification mechanisms and ensure brands control their suppliers to ensure the compliance of products. **Holistic Tools** are tools built on a basis of legislation and information systems and consider the whole value chain, from production to end-of-life. However, within a product life-cycle, specific stages can be identified to intervene and push for change. **Production Tools** focus on the production phase, with the aim to minimize exposure to workers and the environment. **Consumption Tools** focus on the use phase, with a focus on consumer behavior.

## HOLISTIC TOOLS

**Life Cycle Assessment Tools** cover all stages of the product life cycle. They help avoid trade-offs, e.g. shifting the burden from one life cycle stage to another. They also address other factors such as carbon footprint.

**Eco-innovation** supports the integration of sustainability in companies' business strategies and enhances circularity looking at the full value chain and all relevant partners.

### PRODUCTION TOOLS

**Cleaner Production** implies producing goods with a minimum of environmental impacts. It promotes technology change and product modification which can lead to reduced use of hazardous chemicals.

**Responsible Production** is a guide and tool for small and medium-sized enterprises aimed at engaging all stakeholders along the supply-chain in improved production, risk communication and emergency preparedness practices.

**Chemical Leasing** is a service-oriented and sustainability-focused business model that aims to change the thinking in the chemicals value chain, reducing and substituting chemicals.

### CONSUMPTION TOOLS

**Sustainable Public Procurement (SPP)** is a process whereby public organizations meet their needs for goods and services in a way that is beneficial to the organization as well as society and the environment.

**Consumer Information** tools, such as ecolabels, aim at enabling consumers to make more sustainable decisions regarding products. Ecolabels are legally protected labels for products complying with certain environmental criteria.

## LEGISLATION & INFORMATION SYSTEM TOOLS

**Globally Harmonized System of Classification and Labelling of Chemicals (GHS)** is an international standard that was set up to establish standardized hazard testing criteria, universal warning pictograms, and harmonized safety data sheets. GHS is considered one of the most important drivers for information at all levels, including the supply chain.

**Restricted Substance Lists** are lists of chemicals that are regulated by brands and retailers due to their potential harmful effects during production, often through legal frameworks or proactive choices.

**Environmental Product Declarations** are usually based on full material disclosure, i.e. a complete list of all materials used in a product. These are widespread in the building sector and could be applied elsewhere.

## SOLUTIONS

Moving forward, SAICM aims at strengthening collaboration between all actors in the value chain for a change in practices and business models, towards design and use of safer chemicals and sustainable products. An enabling part of changing practices is related to information exchange. This information exchange is driven by four groups of people:

**Supply chain manufacturers and retailers** are purchasing every day and can drive change of practices, including improved information flow. For example, retailers with a strong market power can demand safer and environmentally friendly products from their suppliers.

**Consumer** behavior can lead to brands and retailers implementing environmental measures to create positive reputations and set them apart from other companies.

**NGOs and other stakeholders** influence brands and retailers to share reliable and transparent information on their supply chain practices, and to address environmental concerns.

**Governments** that promote changes in practice in the value chain encourage brands and retailers to meet their requirements. This can be achieved through different tools and by introducing systems for the sharing of information on chemicals in products.

This policy brief has been developed within the framework of the Global Environment Facility (GEF) project ID: 9771 on Global Best Practices on Emerging Chemical Policy Issues of Concern under the Strategic Approach to International Chemicals Management (SAICM): *Chemicals Without Concern – towards safer products for our environment and health*.

Executed by the SAICM Secretariat, this project aims to accelerate the adoption of national and value chain initiatives to manage Emerging Policy Issues by promoting regulatory and voluntary action by government and industry to **phase out lead in paint, support lifecycle management of chemicals present in products, and enable knowledge management and stakeholder engagement for the sound management of chemicals and waste**. The project is being implemented in over 40 countries in a 4-year period.

More information about this project is available at [www.chemicalswithoutconcern.org](http://www.chemicalswithoutconcern.org)



## FURTHER READING

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