

# Chemicals in Consumer Products

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Consumer products are potential sources of exposure to heavy metals, endocrine disrupting chemicals (EDCs), and volatile organic compounds (VOCs).<sup>1</sup>

Heavy metals—including lead, mercury, and arsenic—may be present in toys, paint, jewelry, and personal care products. Cases of acute lead poisoning following exposure to toys and paint containing high levels of lead have been reported.<sup>2</sup>

There is increasing evidence that consumer products contribute significantly to cumulative exposure to EDCs such as phthalates, flame retardants, per- and polyfluoroalkyl substances (PFAS), and triclosan, and that chronic exposure may be associated with adverse health effects.<sup>1</sup> For example, triphenyl phosphate (TPHP), an organophosphate flame retardant (OPFR) commonly used in consumer products, has been associated with altered thyroid function. PFAS used in consumer products—for example, in water repellent and stain resistant coatings for textiles—have been associated with cancer, thyroid disruption, immune system impairment, and reduced fertility.<sup>3</sup>

Paint, polyvinyl chloride (PVC), and wood products may emit VOCs including formaldehyde. Exposure to these consumer products has been associated with increased risk of allergic reactions and respiratory difficulties in children.<sup>4</sup>

### Progress since 2017

The *Environmental Health in Israel 2017* report defined challenges related to Chemicals in Consumer Products. Progress achieved in this area during the past three years is outlined below.

**The challenge: Improve regulatory enforcement for consumer products (enforcement in markets and not only at point of import)**

**In short:** Oversight and enforcement of consumer products' standards in markets in Israel have improved thanks to stronger cooperation among regulators. Supervision and enforcement efforts were extended to product groups identified in market surveys as posing a potential danger to public health.

**Challenge for the coming years:** Establish an integrating authority (inter-ministerial committee) to improve and strengthen supervision and enforcement of regulation of consumer products sold in Israel.

The Ministry of Economy and Industry (MoE) has ministerial responsibility for supervision and enforcement of compliance with relevant mandatory standards for consumer products sold in Israel. In recent years, professional collaboration between the Ministry of Health (MoH) and MoE has expanded. Researchers from the University of Haifa, the Standards Institute of Israel (SII), and MoH, in collaboration with the Environment and Health Fund (EHF), initiated several studies on the presence of chemicals in consumer products and shared the initial findings with MoE for further action and enforcement. Although MoE uses such findings to target and focus enforcement, there is no regulation or mechanism designed to ensure cooperation among the relevant ministries, i.e., MoE, MoH, and the Ministry of Environmental Protection (MoEP). The creation of a joint statutory inter-ministerial committee to formulate annual work plans and objectives would improve oversight and enforcement and would focus the limited resources on products that pose the greatest potential danger to public health.

MoE recently launched an online portal for safety of consumer products that conveys information on consumer products that entered the domestic market and were found to be non-compliant and removed from the shelves (recalled).<sup>5</sup> Despite this improvement, there is still no data published on the scope and results of testing.

**Legend:** ■ Significant progress ■ Some progress ■ Little or no progress

### The challenge: Require labeling of selected consumer products indicating that they meet the standard

**In short:** There is now a mandatory standard to include information on the presence or absence of flame retardant chemicals on the labels of mattresses and textile carpets.

**Challenge for the coming years:** Set a uniform labeling standard for specified chemicals in consumer products, with an emphasis on products designed for infants, toddlers, and children.

MoH initiated a broad-based reassessment of the need for added flame retardants in a variety of consumer products and found that adverse health effects potentially associated with using flame retardant chemicals exceed the safety advantage these chemicals offer. Following this reassessment, the requirement to add flame retardants to the relevant products was no longer mandatory. Instead, in products to which adding flame retardant chemicals is allowed but not required, the presence or absence of these chemicals must be indicated on the product label so that consumers can make informed purchases in accordance with their personal preferences, as is customary in almost all developed countries. Thus, for example, it is now mandatory to indicate the presence or absence of flame retardant chemicals on the labels of adult mattresses, infant mattresses, and textile carpets.

The trend of reducing the use of flame retardant chemicals is expected to spread to other consumer goods such as furniture and home electronics. To date, there is no requirement to indicate the presence or absence of flame retardant chemicals in many consumer products for infants and children, including strollers, car seats, and nursing pillows. There is still no comprehensive requirement for uniform labeling of specific chemicals in all consumer products sold in Israel.

### The challenge: Re-evaluate the role of the Ministry of Health in guaranteeing the adoption and implementation of standards that protect public health

**In short:** MoH is taking the initiative to become more involved in adopting new standards and revising existing ones in order to improve the safety of consumer products.

**Challenge for the coming years:** Continue to increase MoH involvement in adopting international standards that are more advanced and stricter than those in place today.

MoH has expanded its involvement in SII committee deliberations on consumer product standards. Furthermore, based on the findings of studies in which it participated, MoH has been promoting the adoption of new standards and the revision of existing standards—for example, setting a standard for heavy metals in children’s jewelry and a comprehensive standard for lead in paint, and promoting revisions for a range of standards of consumer goods designed for infants, toddlers, and children including cribs, strollers, high chairs, changing tables, and playgrounds.

**The challenge: Advance comprehensive regulation of chemicals in consumer products**

**In short:** The Israel National Council for the Child is promoting a legislative framework for consumer products that will integrate and reconcile the requirements of the relevant standards, with emphasis on consumer products designed for infants, toddlers, and children.

**Challenge for the coming years:** Promote a legislative framework for consumer products designed for infants, toddlers and children.

Israel still lacks a regulatory framework for the systematic evaluation and registration of chemicals, even though such a structure exists in all other OECD member countries except Turkey. In addition, as opposed to the U.S. and Europe, Israel has no comprehensive regulatory framework for chemicals in consumer products.<sup>6</sup>

Currently, the Israeli regulatory framework for consumer products is based on non-binding standards and mandatory standards that apply to specific products only. Uniform and comprehensive framework legislation on chemicals in consumer products could help fill regulatory gaps that might not be addressed in the existing system of product-specific standards. In October 2020, MoEP published a bill that would create a chemicals registration system in Israel. The bill would leave regulatory authority for consumer goods with MoE but would give MoEP regulatory authority to promulgate standards in cases of regulatory gaps.

Given the special sensitivity of certain populations to chemicals, the National Council for the Child and EHF decided to focus their efforts on consumer products designed for infants, toddlers, and children. The two organizations formulated a proposal for dedicated legislative framework for chemicals in consumer products designed for these populations.

**The challenge: Conduct additional surveys of chemicals in consumer products in the market in Israel; conduct a systemic review of requirements pertaining to chemicals in consumer products abroad versus those in Israel**

**In short:** On the basis of several studies conducted, relevant regulation was promoted with the aim of reducing the public’s exposure to chemicals in consumer products.

**Challenge for the coming years:** Identify regulatory gaps for particular consumer products, compare regulatory requirements in Israel with those in other developed countries.

A joint research group of MoH, the University of Haifa, and SII, in collaboration with EHF, conducted several studies to test for the presence of chemicals in consumer products. One such study tested for the presence of heavy metals (primarily lead) in toys, children’s jewelry,<sup>7</sup> and paint, including paint used for the painting and upkeep of playground equipment.<sup>8</sup> A research conducted in 2019–2020 checked for the presence of chemicals in play mats for children, parquet flooring, and synthetic grass. The findings of these studies are helpful in identifying regulatory gaps and addressing them by adopting new standards, revising existing standards or promoting requests for non-binding standards to be made mandatory. By identifying disparities in regulatory requirements between Israel and other developed countries, these studies will create a basis for promoting mandatory regulation of specific consumer products.

### The challenge: Shorten the bureaucratic process of declaring new or revised standards mandatory

**In short:** MoH is working in conjunction with MoE to shorten the time required for completing the process.

**Challenge for the coming years:** Define, in procedures or legislation, the maximum amount of time allowed between publication of a standard and declaring it as mandatory.

Many months (and, in extreme cases, even years) may pass between the revision of a standard by SII and its publication, and between the declaration of a standard as mandatory and including it in the Free Trade Ordinance. The delay stems in part from the lack of a defined timeframe in which the ministers in charge must disclose their ministries' assessment of the standard (consent or opposition). When several ministers' assessments are needed, the process may take even longer. In recent years, several standards (for example, those on lead content in paint and heavy metals in children's jewelry) have been declared in expedited proceedings. Still a limited and reasonable timeframe should be specified for completing each stage of the process so that updated standards may go into effect as soon as possible after the SII committees approve them.

## Research on Chemicals in Consumer Products in Israel

- Researchers from Tel Aviv University and Shamir Medical Center (Assaf Harofeh) examined the effect of using aluminum-based deodorant on aluminum concentrations in breast milk. Fifty-eight women participated in the study. No significant association was found between the use of aluminum-based deodorant and concentrations of aluminum in breast milk.<sup>9</sup>
- Researchers from Tel Aviv University, Sheba Medical Center at Tel Hashomer, and MoH, in collaboration with researchers from Harvard University, Columbia University, and the U.S. Centers for Disease Control (CDC), measured concentrations of thirty-one chemicals (including phthalates and phenols) in urine samples from fifty pregnant women. Fourteen chemicals—including bisphenol A (BPA), various parabens, and benzophenone-3—were found in the urine of over 90% of the participants. Other chemicals—including bisphenol S (BPS) and DINCH (a phthalate substitute)—were found among 30%–63% of the participants.<sup>10</sup> The same group of researchers is measuring concentrations of phthalates and DINCH in the urine of 136 women who underwent in vitro fertilization (IVF).
- A joint research team from MoH, the University of Haifa, and SII studied the presence of lead in spray paints and on painted surfaces in playgrounds and public areas in Israel. In 88% of the samples, levels of lead in paint exceeded the maximum set forth in U.S. regulation (90 ppm). As a result of these findings, Israeli Standard 1343 (Paints and Varnishes) was updated and lead was banned in paint, including industrial paint,<sup>8</sup> effective January 2021.

- ♦ An Israeli research group in collaboration with researchers from Canada and the U.S. examined the regulation of chemicals in children's products and studied how U.S. and European regulations would impact a small market like Israel. The study highlighted the lack of comprehensive framework legislation for all children's products and the difficulty in adopting American and European standards in view of their different approaches and requirements.<sup>11</sup>
- ♦ Researchers from the University of Haifa and MoH studied the impact of standards in Israel on promoting environmental policy, with standards for consumer products designed for infants, toddlers, and children as the case study. The conclusions of the study underline the inherent tensions that exist between safety and health issues, on the one hand, and economic and commercial interests, on the other. The researchers proposed solutions that would improve the decision-making process in a way that would place greater weight on health and environmental considerations.<sup>12</sup>

## Future Challenges

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Direct online shopping poses a major challenge in regulating consumer products in Israel and abroad. Israel has the highest rate of per capita growth in e-commerce among OECD countries and has developed a significant gap between the volume of packages ordered for private consumption without oversight and regulated commercial imports. In 2018, over 50% of online orders were placed via the AliExpress website.<sup>13</sup>

Official commercial importation of consumer goods gives regulators a certain level of control over product safety and standards; personal importation of products purchased online presents regulators with a significant challenge in this context. In practice, the Personal Import Ordinance, effective 2019, exempts all consumer goods (with several specific exceptions) from having to meet the official and mandatory standards that apply in Israel. The ordinance provides a sweeping, structured exemption from supervision of consumer products purchased online or brought to Israel via personal importation—up to thirty units of the same type if the total value of the shipment does not exceed \$1,000, and up to five units of the same type if the total value exceeds that sum.<sup>14</sup> Public service campaigns should be initiated to reduce the potential risk of online shopping to consumer safety and health. Publication of regulatory guidelines and recommendations for the public would enable consumers to make informed online purchases.

Like the Personal Import Ordinance, the cosmetics reform in Israel was designed to lower the cost of living and alleviate the regulatory burden. The reform shifts the responsibility for the safety, quality, and effectiveness of cosmetics to manufacturers and importers, leaving MoH with enforcement and oversight duties as opposed to registration of cosmetics.<sup>15</sup> The potential impact

of the reform on the public's exposure to chemicals in cosmetics, however, needs to be studied. Mitigating the risks of nanotechnology and nanomaterials in cosmetics and consumer products in general is also a regulatory challenge.<sup>6</sup>

In 2020, MoE published a proposed amendment to the Free Import Ordinance that would relax testing requirements for certain imported consumer products. According to MoE, the reform will be accompanied by an increase in inspection and enforcement. After the reform goes into effect, it will be important to monitor changes in the quality of imported products, with emphasis on the presence of toxic chemicals.

There is currently no data in Israel on concentrations of PFAS in consumer products. These water-resistant substances are used in many consumer products, including textiles, food packaging, and cookware. Evidence of adverse health effects from exposure to these substances has been mounting in recent years. The challenge going forward is to continue to study potential exposure to these substances via consumer products in Israel and to evaluate potential regulatory measures.

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