



We support the Sustainable Development Goals

# Restricted/hazardous substance process management



# Restricting or eliminating hazardous substances is essential

Hazardous substance restrictions in products are regulations and guidelines aimed at limiting or eliminating the use of certain chemicals or materials that can be harmful to human health or the environment.

These restrictions are typically implemented through laws and regulations at the national, regional or international levels. Examples include restrictions on lead, mercury, cadmium and certain flame retardants in consumer products.

Limiting or eliminating the use of hazardous substances in products is essential for several reasons:

- **Protecting human health**

Many hazardous substances may have serious adverse effects on human health. Workers involved in manufacturing are exposed to toxic elements that are part of the manufacturing process. Even end users may be at risk, especially in case of malfunction or defective components that may provoke exposure to harmful materials and cause injuries and illnesses. The risk of harm is reduced by restricting their use.

- **Product safety**

Limiting hazardous substances in products ensures that consumers can use them without worrying about potential health risks. This increases the trust they place on the goods they purchase.

- **Global trade**

Many countries have regulations regarding hazardous substances. For companies engaged in global trade, complying with these regulations is key as it helps avoid trade barriers and legal issues. Besides regulatory requirements, more and more companies are seeking the value of differentiating their products from those of their competitors and hence generate greater trust in their brand.

- **Innovation**

Regulatory restrictions encourage companies to seek safer alternatives and adopt more sustainable manufacturing practices. This can also drive innovation in product design and materials, promoting safer and more environmentally friendly products.

- **Environmental protection**

Hazardous substances can also harm the environment. When discarded, products containing these substances can contaminate soil and water, pollute the ecosystems and have long-lasting consequences on the fauna, flora and future farming crops.

- **Long-term sustainability**

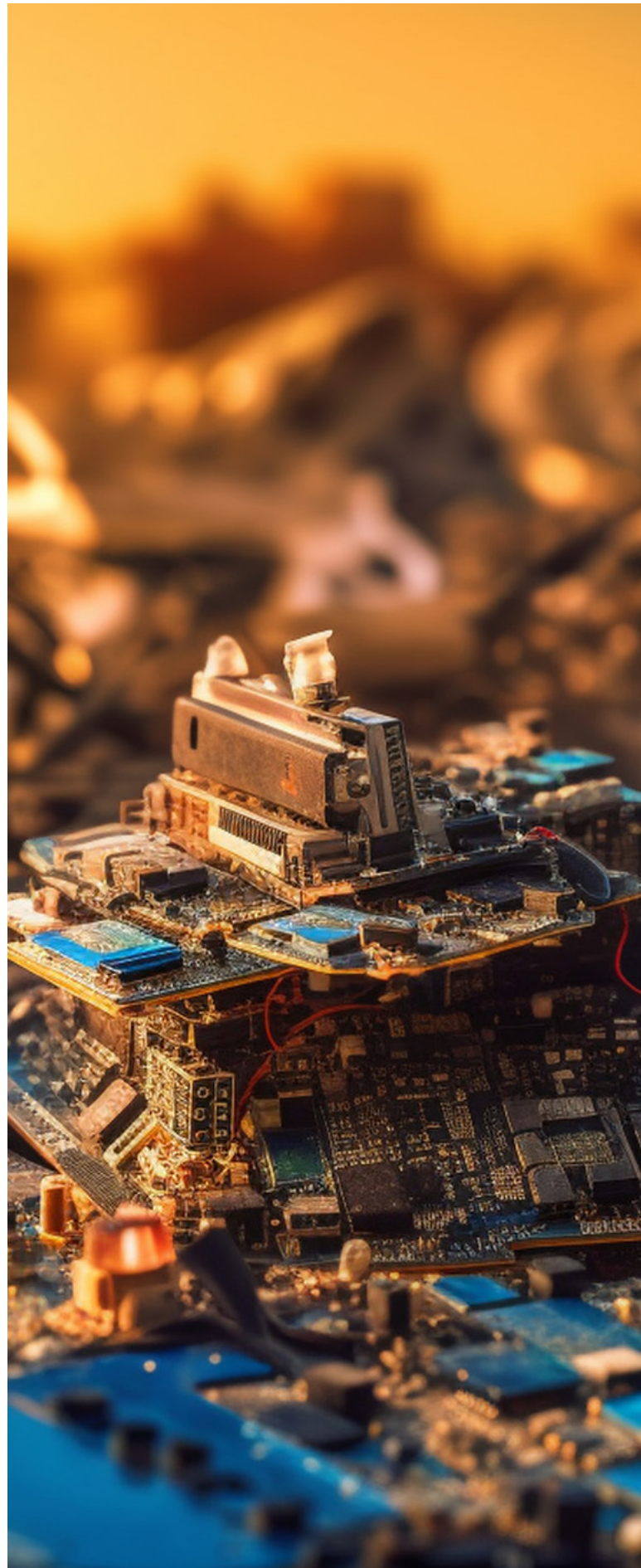
Restricting the use of hazardous substances aligns with broader sustainability goals. It helps in reducing waste, minimizing the environmental impact of products throughout their lifecycle, and supporting a circular economy.



## The end of the lifecycle

What happens to all those discarded devices once we get rid of them? Are they recycled or are they joining the already too high piles of e-waste? Both certainly but there's also a trend that is developing of major retailers proposing refurbished and used electronics alongside the ever-increasing number of new models on the market. Nevertheless, this eco-conscious move only represents a very small part of the global market. And, as is the case with all devices, one day they will die and become e-waste.

Products and devices containing toxic materials may also pose serious health risks to those that are in charge of the dismantling of these waste piles when they come in contact with them.



# The IECQ solution

The IEC Quality Assessment System, IECQ, previously set up the hazardous substance process management (HSPM) scheme to help manufacturers demonstrate compliance with European regulations, e.g. EU RoHS Directive (restriction of hazardous substances) with the prevention, limitation and control of hazardous substances throughout the whole production process, including all components manufactured by outside suppliers.

IECQ HSPM was developed in response to component manufacturers' need to give suppliers the means of demonstrating, through third-party assessment, that their electrical and electronic components and assemblies meet specific hazardous substance-free local, national and international requirements. Many companies today are working to attain IECQ HSPM certification to [IECQ QC 080000](#).

IECQ developed the international specification IECQ QC 080000, using the globally accepted quality management systems requirements of ISO 9001 as a basis, which offers a comprehensive approach to managing and controlling processes aligned with hazardous substance free goals. Through IECQ HSPM certification, manufacturers are evaluated based on this specification, ensuring the establishment and implementation of processes for effectively managing hazardous substances beyond restricted substances avoidance.

Manufacturers achieving IECQ HSPM certification have been successfully assessed and factories audited by

IECQ accredited certification bodies (CBs). Manufacturers maintain their IECQ HSPM certification by way of ongoing surveillance auditing of their facilities by the IECQ accredited CBs, to provide the ongoing confidence that IECQ HSPM certified manufacturers will continue to comply with requirements. IECQ HSPM certificates are issued via the IECQ centralized online certificate system and available for instant public checking and verification, with the IECQ HSPM certificate listing which hazardous substance regulations are covered ([visit the IECQ website](#))



Meeting the certification requirements allows manufacturers to minimize technical trade barriers and demonstrates compliance with customer requirements and regulations. The IECQ HSPM certification also enables efficient compliance checks, consistent deployment throughout manufacturers and their supply chains, and harmonization of compliance and enforcement methods. This certification enhances a manufacturer's reputation while actively contributing to a sustainable future.

## Restricted substances

Examples include, among others:

**Pb**

Lead

**Hg**

Mercury

**Cd**

Cadmium

**CR<sup>+6</sup>**

Hexavalent chromium

**PBBs**

Polybrominated biphenyls

**PBDEs**

Polybrominated diphenyl ethers

**DEHP**

Bis(2-ethylhexyl) phthalate

**BBP**

Benzyl butyl phthalate

**DBP**

Dibutyl phthalate

**DIBP**

Diisobutyl phthalate

(ref: EU RoHS 2 Directive 2011/65/EU @ 2023)



## Compliance with regulations

The first requirement of IECQ QC 080000 is for the manufacturer to nominate which hazardous substance regulations they are claiming that they meet.

In response to global concerns regarding the presence of restricted/hazardous substances in equipment production, countries have enacted legislation to restrict or prohibit their use.

To ensure that products respect national and/or international regulations, and to avoid potential recalls or liability suits, original component manufacturers (OCMs) and original equipment manufacturers (OEMs) and their supply chain need to demonstrate due diligence of compliance with regulations concerning restricted substances.

Such regulations include the following (from the European Union, China, and industry customers):

- **EU RoHS** – Restriction of the use of certain hazardous substances in electrical and electronic equipment
- **EU WEEE** – Waste electrical and electronic equipment
- **EU REACH** – Registration, evaluation, authorization and restriction of chemicals
- **China RoHS 2** – Administrative measures for the restriction of the use of hazardous substances in electrical and electronic products

- **069-0135** – Apple Regulated Substances Specification
- **SS-00259** – Sony management regulations for the environment-related substances to be controlled which are included in parts and materials

## Requirements

Restricted/hazardous substance management needs to go much further than strict control of the component product itself. It involves the complete supply chain and production process, from product design, material selections, external service providers, and purchasing to production lines, production processes, warehouses and dispatch.

The presence of restricted/hazardous substances at any one stage of the process can contaminate the final product.

IECQ HSPM was developed to help manufacturers verify and control the use of restricted/hazardous substances throughout the entire production process, including all materials, components, and services provided by external service providers/suppliers.

The system also allows external service providers/suppliers to demonstrate, through third-party assessment, that their component products, raw materials and assemblies meet specific restricted/hazardous substance-free local, national and international requirements.

# Numerous benefits

## Efficient management tool

It provides an effective tool for managing the identification and use of restricted/hazardous substances (HS), making the management process more streamlined and organized.

## Demonstrate HS & HSF “due diligence”

The certification demonstrates a thorough and responsible approach to handling restricted/hazardous substances (HS and HSF or hazardous substance free), showcasing a commitment to exercising due diligence in their management.

## Ensure compliance

It demonstrates compliance with relevant laws and regulations, as well as adherence to the highest industry standards for managing restricted/hazardous substances. This ensures that the manufacturer operates within legal and ethical boundaries.

## Access to global markets

Obtaining the certification allows for seamless access to global markets, eliminating barriers and delays that could otherwise hinder international trade.

## Build trust and confidence

IECQ HSPM certification instills trust and confidence in customers and other stakeholders. It demonstrates the manufacturer’s commitment to the safe and responsible handling of restricted/hazardous substances, enhancing its reputation and credibility.

## Reduce costs

With the certification, there is no need for costly duplication of testing and certification at a local level. This eliminates unnecessary expenses associated with redundant assessments, ensuring cost savings for the manufacturer.





### Save money and resources

The certification eliminates the need for multiple second-party assessments of suppliers. Instead, it provides a globally harmonized “IECQ supplier assessment” that replaces lengthy questionnaires and on-site evaluations from customers. This streamlines the assessment process and helps save costs and resources.

### Transparency and integrity

All IECQ certificates are published in the official IECQ online certificate system. This provides transparency and easy access for end users, manufacturers, and service providers to find and confirm certified suppliers. It ensures the integrity of the certification process and promotes trust among stakeholders.



# IECQ contributes to UN SDGs



The IECQ HSPM scheme contributes to several of the United Nations Sustainable Development Goals (UN SDGs).

For a start, it contributes to [SDG 3](#): Good health and well-being, which states that by 2030, the goal is to substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

IECQ HSPM can play a major role in [SDG 12](#) to ensure sustainable consumption and production patterns. SDG 12 aims to achieve the environmentally sound management of chemicals and all wastes throughout their lifecycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in

order to minimize their adverse impacts on human health and the environment. It also wants to substantially reduce waste generation through prevention, reduction, recycling and reuse.

IECQ HSPM encourages companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.

Compliance with IECQ HSPM also has a defining part in achieving [SDG 13](#), whose aim is to take urgent action to combat climate change and its impacts.



## In summary

IECQ HSPM certification to IECQ QC 080000 provides an efficient management tool, demonstrates due diligence, ensures compliance, facilitates access to global markets, builds trust and confidence among customers and other stakeholders, saves money and resources, reduces costs, and enhances transparency and integrity.

To establish conformity, service providers/suppliers undergo initial and ongoing comprehensive assessments conducted by IECQ certification bodies (IECQ CBs) for HSPM. These assessments verify that the providers' products and processes comply with the international specification IECQ QC 080000, as well as relevant national or regulatory standards, such as the EU RoHS.



# About the IECQ

The IEC Quality Assessment System, IECQ offers industry-specific global certification schemes for specialized services that support environmental sustainability, supply chain management, and manufacturing of component products, through its IECQ accepted and accredited certification bodies (IECQ CBs). These certification schemes provide manufacturers and service providers with independent verification that their suppliers comply with component/process specifications and/or IEC and ISO International Standards.

IECQ operates industry-specific global certification schemes that are used across the following markets/areas:

- Environmental services supporting the circular economy
- Specialized services supporting supply chain management
- Specialized services supporting the manufacturing of component products.

IECQ provides manufacturers with independent verification that IEC or ISO International Standards and other specifications have been met by suppliers who hold an IECQ certification.

The aerospace, defense, and high-performance sector and increasingly other industries depend on the IECQ electronic component management plan (ECMP) to assess suppliers and safely manage their components' supply chain also to avoid counterfeit merchandise.

## IECQ environmental services supporting a circular economy

The three services are IECQ hazardous substance process management, ecodesign certification and carbon footprint of product claims verification. The IECQ green portfolio of services is aimed at all industry sectors and offers manufacturers a one-stop shop that helps them provide accurate information and avoid greenwashing accusations.

## IECQ operates the following schemes and services:

- IECQ circular economy services
  - IECQ Carbon footprint of product claims verification (CFP)
  - IECQ Environmentally conscious design or ecodesign
  - IECQ Hazardous substance process management (HSPM)
- IECQ Approved process (AP)
  - Specialized process (SP)
  - IECQ Distributor (D)
  - IECQ Counterfeit avoidance programme (CAP)
  - IECQ Electrostatic discharge (ESD)
  - IECQ Products and services important to nuclear safety according to ISO 19443 (INTS)
  - IECQ Information security management system according to ISO/IEC 27001 (ISMS)
- IECQ Approved component (AC)  
Provides certification of electronic components, parts and assemblies according to international standards and manufacturing specifications, thereby providing a crucial procurement tool for supply chain management
- IECQ Aerospace, defense, and high-performance –  
Electronic component management plans (ADHP-ECMP)
- IECQ Independent testing laboratory (ITL approval)

### More information:

Please visit the IECQ website at [www.iecq.org](http://www.iecq.org) or contact IECQ at [info@iecq.org](mailto:info@iecq.org)

# Further information

For further information, please visit the IEC website at [www.iec.ch](http://www.iec.ch). In the “Who we are” section, you can contact your local IEC National Committee directly. Alternatively, please contact the IEC Secretariat in Geneva, Switzerland or the nearest IEC Regional Centre.

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