SESEC V Translation

Translation of the *Explanatory Notes on the draft 'Requirements for the Restricted Use of Hazardous Substances in Electrical and Electronic Products'*

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Seconded European Standardization Expert in China
(SESEC)

INTRODUCTION:

On 19 November 2024, the Ministry of Industry and Information Technology (MIIT) of China released the draft *Requirements for the Restricted Use of Hazardous Substances in Electrical and Electronic Products* for public comment. This new standard is intended to replace the currently effective China RoHS standard, GB/T 26572-2011, along with its amendments. Once finalized, it will establish updated admission conditions for electrical and electronic products entering the Chinese market. The deadline for submitting comments on this draft is 18 January 2025.

Along with the draft standard, the drafting group also released an explanatory document detailing the entire development process and the rationale behind their decisions.

SESEC team has translated the official explanation notes for your reference.

DISCLAIMER:

This English version is an unofficial translation of the original Chinese document, produced by SESEC for reference purposes only. In the event of any discrepancies between the English and Chinese versions, the Chinese version shall prevail. SESEC accepts no responsibility or liability for any errors, inaccuracies, or misunderstandings arising from this translation.

Explanatory Notes on the Mandatory National Standard '*Requirements for Restricted Use of Hazardous Substances in Electrical and Electronic Products (Draft for Comment)*'

I. Work profile

(1) Task source

In accordance with the "Notice of the Standardization Administration of China on the issuance of *Requirements for restricted use of hazardous substances in electrical and electronic products* and other 49 mandatory national standards", the mandatory national standard *Requirements for restricted use of hazardous substances in electrical and electronic products* (Plan No. 20231685-Q-339) was proposed, organized and centrally managed by the Ministry of Industry and Information Technology (MIIT), entrusted to the Subcommittee 3 on Testing Methods for Hazardous Substances of the National Technical Committee 297 on Environmental Standardization for Electrical and Electronic Products and Systems of (TC297/SC3), and developed under the leadership of China Electronics Standardization Institute (CESI).

(2) Composition of drafters

After the standard task was assigned, the Secretariat of SAC/TC297/SC3 issued the *Letter on recruiting drafting units of mandatory national standard Requirements for restricted use of hazardous substances in electrical and electronic products* (DHBJ [2024] No.1) to openly recruit drafting units from January 26, 2024 to February 29, 2024. On March 20, 2024, CESI, the leading organization for standard formulation, held a kick-off meeting for standard development in Beijing, and set up a drafting group, which was mainly composed of enterprises of electrical and electronic products, industry associations, scientific research institutes, and relevant testing/certification organizations, representing all relevant parties in the industry of control of hazardous substances in electrical and electronic products.

(3) Main drafting process

Primary research and preparations prior to establishment of this standard project are as follows:

(1) In June 2020, a standard pre-research group was set up to review technical requirements for new controlled hazardous substances in foreign RoHS regulations, and simultaneously carry out the work of transferring RoHS testing methods from international standards to national standards (IEC 62321 series to GB/T 39560 series);

(2) From October to December 2020, an initial technical framework of the standard was formed, and key enterprises in the industry were consulted for modification and improvement of the technical framework;

(3) In March 2021, the technical framework of the standard was evaluated by experts, and the conclusion was to conduct in-depth research on the control of four phthalate esters (PAEs) in the industry;

(4) From April to November 2021, preliminary research on the control of PAEs in the industry was conducted by questionnaire survey, telephone communication, online meeting and other means. Preliminary conclusion was that The industry's early response to the EU RoHS Directive (has helped establish robust compliance mechanisms,) making the control of the four newly added PAEs generally feasible;

(5) In December 2021, the adoption of RoHS testing methods standards IEC 62321 series to Chinese national standards was completed, and the nine GB/T 39560 series standards were issued, covering four new PAEs, providing standard support for the control of new PAEs;

(6) In March 2022, four organizations, namely, CESI, China Electronic Product Reliability and Environmental Testing Research Institute (CEPREI), China Academy of Information and Communication Technology (CAICT) and China Household Electric Appliance Research Institute (CHEARI), conducted a formal survey on the compliance status of the four types of PAEs in the 12 categories of products in the *Catalogue for compliance management of restricted use of hazardous substances in electrical and electronic products*, and concluded that more than 90% of the products in the 12 categories comply with the requirements on PAEs content (0.1%, W/W); the cost of controlling the newly added four PAEs has been increased by approximately 0.5%;

(7) In August 2022, the draft standard and project application materials were completed and passed the project evaluation by industry experts;

(8) In May 2023, the project application materials were submitted to the MIIT;

(9) In July 2023, the project passed the evaluation (defense) for approval by the MIIT;

(10) On August 25, 2023, the General Office of the MIIT issued a letter (GTK [2023] No. 808) recommending the initiation of this standard;

(11) In September 2023, CESI, according to the recommendation letter of the MIIT, submitted the application for approval of this standard project to the Standardization Administration of China (SAC) in accordance with the procedure for project approval of national standards;

(12) On October 12, 2023, this standard project passed the approval defense of the SAC and entered the project approval procedure of the SAC;

(13) In December 2023, the *study report on the feasibility of addition of four PAEs according to the 'Measures for the Administration of the Restricted Use of the Hazardous Substances Contained in Electrical and Electronic Products'* was completed to provide technical support for the expansion of hazardous substances controlled by this standard to 10 categories.

Main development work following the successful project approval of this standard is as follows:

(14) On December 28, 2023, the task was assigned for the mandatory national standard *Requirements for restricted use of hazardous substances in electrical and electronic products* with the Plan No. 20231685-Q-339 in accordance with the *Notice of the Standardization Administration of China on the issuance of Requirements for restricted use of hazardous substances in electrical and electronic products and other 49 mandatory national standards*. The planned development period was 16 months.

(15) From January 26, 2024 to February 29, 2024, the Secretariat of SAC/TC297/SC3 issued the *Letter on recruiting drafting units of mandatory national standard Requirements for restricted use of hazardous substances in electrical and electronic products* (DHBJ [2024] No.1) to openly recruit drafting units;

(16) On March 10, 2024, the standard pre-research group completed the drafting of the technical content of the standard according to preliminary research;

(17) On March 20, 2024, CESI, the leading organization for standard formulation, held a kick-off meeting for standard development in Beijing, set up a standard drafting group, and determined the technical framework of the standard;

(18) On April 7, 2024, CESI modified and improved the standard according to the comments from the kick-off meeting, and formed the draft standard.

(19) On May 28, 2024, CESI, the leading unit of standard formulation, organized a seminar on the standard (draft) in Shenyang. 55 representatives of the drafting group attended the meeting. They discussed the content of the standard (draft) and determined the main technical content of the standard.

(20) On June 20, 2024, CESI modified and improved the standard draft according to the comments collected from the seminar held on May 28, 2024, and formed the draft for comments of this standard.

(21) On June 26, 2024, the draft for comments and related materials were submitted to the Energy

Conservation Department of the MIIT.

(22) On June 28, 2023, an invitation was extended to electrical and electronic equipment manufacturers to convene a standard discussion meeting in Beijing. The meeting gathered feedback from industry enterprises on the draft for comments, specifically regarding conformity assessment requirements, testing scheme technical requirements, and scaling requirements for marking specifications.

(23) From July to September 2024, the Energy Conservation Department of the MIIT organized two industry forums, inviting industry experts and enterprise representatives to study the draft for comments and related materials. A list of modifications was formed and reported to the drafting group.

(24) On October 10, 2024, the drafting group modified and improved the standard text according to the suggestions of the above-mentioned forums from July to September, and formed the draft for comments again.

II. Principles of standard formulation and justification for determining the main content

The format of this standard conforms to the requirements of GB/T 1.1 *Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents*.

This standard is prepared by fully reviewing the domestic and foreign regulations, directives, standards and certification norms related to the restricted use of hazardous substances in electrical and electronic products, investigating the development of related industries in China, and combining the requirements of China's laws and regulations and the current production and use of electrical and electronic products.

The determination of the technical content of this standard is primarily based on the following::

a) The *Measures for the Administration of the Restricted Use of the Hazardous Substances Contained in Electrical and Electronic Products* (the *Measures for Administration*) and the relevant requirements of supporting policies and regulations, and the consistency of this standard and the *Measures for Administration* in terms of applicable electrical and electronic products;

b) The current situation of production, use, disposal and recycling of electrical and electronic products in China;

c) The current management practice of restricted use of hazardous substances in the electrical and electronic industry;

d) Requirements of recommended national standards and sector standards in related fields.

The two standards, namely recommended national standard *Requirements of concentration limits for certain restricted substances in electrical and electronic products* (GB/T 26572-2011) and recommended sector standard *Marking for the restriction of the use of hazardous substances in electrical and electronic product* (SJ/T 11364-2014), are the main supporting standards of the *Measures for Administration*. However, there is a mismatch between the recommending attributes of the two standards and the mandatory attributes of regulations, and the support provided by the standards for the regulation is not explicitly mentioned in the text of the *Measures for Administration*. On one hand, this leads to some enterprises not understanding the mandatory attributes of the supporting standards vested by the regulation in actual implementation, so that these supporting standards cannot be fully implemented, thus affecting the implementation of policies; and on the other hand, it brings inconvenience to the concrete implementation of market supervision. For example, some enterprises consider these standards as recommended standards and do not mark their products or the marking of their products does not meet the requirements of the standards; there are also some enterprises whose products have been included in the *Catalogue for compliance management of restricted use of hazardous substances in electrical and electronic products*, but due to the deviation in understanding the nature of the standards, the products do not meet the limit requirements of the national standard, which results in non-compliance of the products. Additionally,

there are no regulatory measures or management methods for the implementation of the recommended standards, making it impossible to effectively support the implementation of laws and regulations.

This standard resolves the major problem of matching the attributes of regulations and standards, while updating the technical requirements as necessary to make it more adaptable to industrial development. The main technical content of the update is as follows:

1) expanded controlled hazardous substances in electrical and electronic products in China from six categories to ten categories, to align with international practices (four new PAEs: dibutyl phthalate (DBP), diisobutyl phthalate (DIBP), butyl benzyl phthalate (BBP) and bis(2-ethylhexyl) phthalate (DEHP)) (Table 1);

2) unified use of GB/T 39560 (all parts) *Determination of certain substances in electrical and electronic products* (equivalent to IEC 62321 (all parts), IDT) in the testing methods for limits of hazardous substances in electrical and electronic products, to ensure the accuracy and consistency of RoHS compliance test results in the industry;

3) In the labeling requirements for the restricted use of hazardous substances in electrical and electronic products, methods and requirements for digital representations, such as QR codes and screen displays, have been added to reduce the RoHS compliance costs for enterprises;

4) When declaring conformity with the restrictions on the use of hazardous substances in electrical and electronic products, a requirement has been added for technical supporting documents to include test reports covering high-risk components containing hazardous substances. This aims to enhance the overall credibility of the RoHS "self-declaration" conformity assessment results within the industry;

5) Inspection rules have been added to support the industry's ongoing efforts to ensure RoHS compliance in the routine production processes of electrical and electronic products.

Table 1 Types and limits of restricted hazardous substances in electrical and electronic products

S/N	Chinese Name	English Name	Abbreviations	Limit / (mg/kg)
1	铅	Lead	Pb	≤1000
2	汞	Mercury	Hg	≤1000
3	镉	Cadmium	Cd	≤100
4	六价铬	Hexavalent chromium	Cr(VI) or Cr6+	≤1000
5	多溴联苯	Polybrominated biphenyls	PBB	≤1000
6	多溴二苯醚	Polybrominated diphenyl ethers	PBDE	≤1000
7	邻苯二甲酸二正丁酯	Dibutyl phthalate	DBP	≤1000
8	邻苯二甲酸二异丁酯	Diisobutyl phthalate	DIBP	≤1000
9	邻苯二甲酸丁基苄酯	Butyl benzyl phthalate	BBP	≤1000
10	邻苯二甲酸二（2-乙基）己酯	Bis(2-ethylhexyl) phthalate	DEHP	≤1000

III. Relation with relevant laws, administrative regulations and other mandatory standards, and the development of supporting recommended standards

At present, the *Measures for Administration* is mainly supported by GB/T 26572-2011 "Limit Requirements" and SJ/T 11364-2014 "Marking Requirements". Against the background of raising RoHS control requirements and updating testing methods in global industries, the MIIT has proposed to further deepen the restricted use of hazardous substances in electrical and electronic products and started the revision work of the above two standards from 2020, in order to implement the important work of promoting the clean transformation of production process and reducing the use of hazardous substances at source, as stated in China's *14th Five-Year Plan for the Green Industrial Development*. At present, the No. 1 amendment of GB/T 26572-2011 "Limit Requirements" has been released and implemented since January 1, 2026, and the revised version of SJ/T 11364-2014 "Marking Requirements" is now in the public comments solicitation before final approval, and is expected to be published in December 2024 and implemented in December 2025.

This standard is developed mainly to support the deep implementation of the *Measures for Administration*, and it is the first mandatory national standard in the field of China RoHS scheme. Its technical content is based on the analysis of China's relevant policies, laws and regulations, as well as the status quo of the industry's substitution technology for hazardous substances and the trend of such technology. Also, it is a combination and improvement of the technical content of the two recommended standards, namely, GB/T 26572 and SJ/T 11364. Therefore, the implementation of Amendment No. 1 to GB/T 26572-2011 on "Limit Requirements" and the revised version of SJ/T 11364-2014 on "Labeling Requirements" can provide standard support and a rehearsal for the industry to transition to the enforcement of this mandatory standard in the future, thereby reducing the pressure on enterprises to comply with future RoHS mandatory requirements.

GB/T 39560 series "Determination of certain substances in electrical and electronic products", the supporting standards for testing methods of hazardous substances in this standard that had been released in 2020 and 2021, can cover the testing of the content of the ten major categories of hazardous substances restricted by this standard.

IV. Comparative analysis with relevant laws, regulations and standards of the ISO and other countries or regions

In the field of restriction of hazardous substances in electrical and electronic products, no international standards, such as ISO or IEC limit requirements, have been published.

Currently, the types and limit requirements for hazardous substance restrictions in electrical and electronic products worldwide are all based on the EU RoHS Directive (2011/65/EU). This standard specifies the limit values for ten major hazardous substances in electrical and electronic products, including lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), polybrominated diphenyl ethers (PBDE), dibutyl phthalate (DBP), diisobutyl phthalate (DIBP), butyl benzyl phthalate (BBP) and bis(2-ethylhexyl) phthalate (DEHP). These limits are consistent with the requirements of the EU RoHS Directive (2011/65/EU).

V. Process, resolution, and basis for Major Divergent Opinions

During the drafting process of this standard, no major divergent opinions have arisen so far.

VI. Recommendations and justifications for the transition period between the publication date and implementation date of the mandatory national standard (hereinafter referred to as the "transition period"), including the technical modifications, cost investments, and time required for phasing out outdated products from the market.

This standard is formulated by integrating and revising the technical content of the two recommended standards GB/T 26572-2011 and SJ/T 11364-2014, mainly integrating the two into one. Since the two standards had been implemented for many years prior to this integration, the revisions and additional technical content can be rectified and implemented within one year. Therefore, it is recommended that this standard be implemented one year after its publication.

Since EU RoHS Directive (2011/65/EU) was implemented early in July 2011, Chinese manufacturers of electrical and electronic products with export business have made early efforts to comply with the

requirements of EU RoHS Directive for the control of the ten major hazardous substances in the process of product design, material selection and manufacturing, and relevant testing institutions have largely equipped with the necessary testing instruments and equipment to meet the requirements. Therefore, during the implementation of this standard, the cost of equipment upgrades and personnel training for enterprises and quality inspection institutions will primarily focus on standard requirement promotion, personnel training, production line control optimization, and supplier management optimization. The overall increase in investment costs is expected to be minimal. In addition, it is recommended that national administrative departments for standardization and relevant administrative departments strengthen the publicity and education of the standard, or entrust the National Technical Committee 480 on Furniture of Standardization Administration of China (SAC/TC480) to undertake the publicity, education, and interpretation of the standard. The drafting units will actively cooperate with SAC/TC480 to ensure the effective implementation of the standard.

VII. Policy measures related to the implementation of mandatory national standards, including the department responsible for supervision of implementation, as well as relevant laws, administrative regulations, departmental rules and regulations for violations of mandatory national standards

This standard is implemented under the supervision of the MIIT, State Administration for Market Regulation, and General Administration of Customs. Regarding the violation of mandatory national standards, the supervisory departments shall, within their respective scope of duties, deal with the violations in accordance with the following laws, administrative regulations and departmental rules:

The *Standardization Law of the People's Republic of China* is the most fundamental basis for the implementation of mandatory standards. Mandatory national standards are implemented in accordance with Chapter III of this Law: products and services that do not meet mandatory standards shall not be manufactured, sold, imported or provided; violations of mandatory national standards are handled in accordance with Chapter IV of this Law: civil liability shall be borne by organizations or individuals who produce, sell or import products or provide services that do not meet mandatory standards, or by enterprises that produce products or provide services that do not meet the technical requirements of the enterprise standards they have disclosed.

Any organization or individual who produces, sells or imports products or provides services that do not meet mandatory standards shall be investigated and dealt with in accordance with the *Product Quality Law of the People's Republic of China*, the *Law of the People's Republic of China on Import and Export Commodity Inspection*, the *Law of the People's Republic of China on the Protection of Consumer Rights and Interests* and other laws and administrative regulations. The same shall be recorded on their credit history and made public in accordance with relevant laws and administrative regulations. Where a crime is constituted, criminal liability shall be investigated in accordance with the law.

Measures for the Administration of the Restricted Use of the Hazardous Substances Contained in Electrical and Electronic Products, Article 19 Anyone who violates these Measures in one of the following circumstances shall be punished by the commerce, customs, quality inspection and other departments within the scope of their respective duties:

(i) Producers of electrical and electronic products who violate the provisions of Article 10 of these Measures by using materials, technologies and processes that do not comply with the national or sector standards for the restriction of hazardous substances in electrical and electronic products, or by releasing or selling electrical and electronic products which do not comply with the requirements of these Measures;

(ii) Importers of electrical and electronic products who violate the provisions of Article 11 of these Measures by importing electrical and electronic products that do not comply with national or sector standards on restricted use of hazardous substances in electrical and electronic products;

(iii) Producers or importers of electrical and electronic products who violate the provisions of Article 12 of these Measures by manufacturing or using packaging materials for electrical and electronic products that do not comply with violate national or sector standards for packaging materials;

(iv) Producers or importers of electrical and electronic products who violate the provisions of Article 13 of these Measures by failing to indicate the name and content of hazardous substances in electrical and electronic products, whether the involved components and products can be recycled, as well as the information that improper use or disposal may have an impact on environment and human health;

(v) Producers or importers of electrical and electronic products who violate the provisions of Article 14 of these Measures by failing to indicate the environment-friendly use period of the electrical and electronic products;

(vi) Sellers of electrical and electronic products who violate the provisions of Article 16 of these Measures by selling electrical and electronic products that do not comply with national or sector standards for the restriction of hazardous substances in electrical and electronic products;

(vii) Producers, sellers or importers of electrical and electronic products who violate the provisions of Article 17 of these Measures by producing, selling or importing electrical and electronic products whose hazardous substance content exceeds the relevant national or sector standards since the implementation of restricted use of these hazardous substances in electrical and electronic products listed in the *Catalogue for compliance management of restricted use of hazardous substances in electrical and electronic products*.

VIII. Recommendations and justifications for public notification

It is recommended to notify externally. This standard integrates relevant contents from GB/T 26572-2011 and SJ/T 11364-2014, maintaining consistency with international requirements for the limit values of 10 categories of hazardous substances. Additionally, some innovations have been made regarding labeling requirements and conformity declaration requirements.

IX. Recommendations on abolishment of relevant currently effective standards

Upon the release and implementation of this standard, GB/T 26572-2011 and its amendments and SJ/T 11364 are abolished.

X. Explanation regarding patents

During the drafting process of this standard, no relevant patents were identified.

XI. Catalogue of products, processes or services involved in mandatory national standard

This standard involves electrical and electronic products, with its scope consistent with the scope of products subject to the *Measures for the Administration of the Restricted Use of the Hazardous Substances Contained in Electrical and Electronic Products*.

XII. Miscellaneous

None.

Introduction of SESEC Project

The Seconded European Standardization Expert in China (SESEC) is a visibility project co-financed by the European Commission (EC), the European Free Trade Association (EFTA) secretariat and the three European Standardization organizations (CEN, CENELEC and ETSI). Since 2006, there has been four SESEC projects in China, SESEC I (2006-2009). SESEC II (2009- 2012), SESEC III (2014-2017), SESEC IV (2018- 2022) and SESEC V (2022-2025). Dr. Betty XU is nominated as the SESEC expert and will spend the next 36 months on promoting EU-China standardization information exchange and EU-China standardization cooperation.

The SESEC project supports the strategic objectives of the European Union, EFTA and the European Standardization organizations (ESOs). The purpose of SESEC project is to:

- **Promote European and international standards in China;**
- **Improve contacts with different levels of the Chinese administration, industry and standardization bodies;**
- **Improve the visibility and understanding of the European Standardization System (ESS) in China;**
- **Gather regulatory and standardization intelligence.**

The following areas have been identified as sectoral project priorities by the SESEC project partners: Internet of Things (IoT) & Machine-to-Machine(M2M) communication, communication networks & services, cybersecurity & digital identity, Smart Cities (including transport, power grids & metering), electrical & electronic products, general product safety, medical devices, cosmetics, energy management & environmental protection (including eco-design & labeling, as well as environmental performance of buildings).