ZVEI:
Die Elektroindustrie

Guideline

Material Declarations Within the Supply Chain

ZVEI - Zentralverband Elektrotechnik- und Elektronikindustrie e.V.
(German Electrical and Electronic Manufacturers' Association)

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Foreword

Differing regulations within and outside Europe make sustainable information management within value-added chains more important than ever. The need to comply with the specific requirements of chemicals legislation relating to electrical engineering and electronics industry products represents a particular challenge for the market players involved. In the European Union, for example, companies are required to pass on certain information within the supply chain. If appropriate, they must also ensure that the composition of materials, components and assemblies in the upstream supply chain does not breach specified concentration limits. Due in particular to the constantly changing general requirements of European legislation resulting from the REACH Regulation and the product-specific substance restrictions of the RoHS Directive, the resultant company-specific requirements and the global nature of supply chains, only effective information management within these supply chains can ensure compliance with product requirements.

The aim of this document is to provide information on issues relating to "material declarations within the supply chain" that relate to the exchange of product-specific information about materials and substances for the purposes of ensuring product compliance. International standard IEC 62474 relating to material declarations for products from and for the electrical engineering industry will form a particular focus of this document.

It is ultimately up to each individual player in the supply chain to decide whether the communication of product-specific information on materials and substances within the supply chain can be improved.

We hope you will find this document helpful in this respect.

Abb. 1: © vege – Fotolia

1 Background – sense and purpose of material declarations

1.1 Introduction

In recent years, the electrical engineering and electronics industry has increased its focus on product-specific information relating to materials and substances. This information concerns the constituent elements at material, component and assembly level or substances used in the manufacturing process. There are several reasons why it is necessary to exchange such material declarations within the supply chain (e. g. statutory regulations).

The provision of material declarations in the supply chain is interpreted and implemented very differently by the players involved. This makes it difficult to establish a standardised procedure for communicating material declarations between companies so as to keep the time and costs involved to an acceptable minimum. The general assumption is that company-specific substance lists increase the effort involved in preparing material declarations.

1.2 Global supply chain complexity

Global supply chains are a complex web of commercial relationships. One point to bear in mind in this context is that neither the electrical engineering and electronics industry nor other branches of industry have isolated supply chains. Companies often form part of multitiered, global supply chains and normally have limited knowledge of the full chemical composition of their upstream suppliers' products.

For many years, the electrical engineering and electronics industry has been committed to improving material declarations between the relevant players in supply chains. Above all, it was recognised that a lack of harmonisation due to the absence of defined standards relating to material declaration requirements in industry-specific supply chains leads to shortfalls in the communication between all stakeholders involved. However, the associated findings have so far only resulted in minor improvements in terms of minimising companies' related outlay. Consequently, there are growing calls from numerous businesses for an efficient approach to material declarations because, ultimately, this outlay is borne by everyone involved in the supply chain. This raises the question of how to establish good declaration practice.

The ZVEI was quick to play an active role in national and international standardisation committees in the electrical engineering and electronics industry. At the international standardisation level of the IEC in particular, Technical Committee 111 (IEC/TC111) has addressed the issue of material declarations. After several years of development work, international standard IEC 62474 entitled 'Material declaration for products from and for the electrical engineering industry' was published in 2012. Section 4 of this guideline provides background information and further details on international standard IEC 62474.

Abb. 2: © Victoria – Fotolia

2. Statutory regulations relating to chemicals in the electrical engineering and electronics industry

Companies operating in all branches of the electrical engineering and electronics industry – from components to consumer and capital goods – are required to observe a variety of European and non-European regulations relating to chemicals. What's more, these regulations are changing all the time. Key regulations within the European Union are the REACH Regulation on chemicals, the RoHS Directive and the ELV Directive. Other product-specific and sector-specific regulations relating to chemicals also need to be observed within the electrical engineering and electronics industry.

Key aspects of the REACH Regulation and the RoHS Directive are detailed below. Further statutory regulations relating to chemicals in the electrical engineering and electronics industry can be found in the database of international standard IEC 62474.[1]

Abb. 3: © Thomas Jansa – Fotolia

2.1 REACH Regulation (EC) No. 1907/2006

Regulation (EC) No. 1907/2006 harmonised European chemicals legislation and created some new structures and procedures. The REACH Regulation sets out basic obligations for virtually all market players. These obligations are based on each player's role within the supply chain (substance manufacturers, importers, etc.). Under this Regulation, the electrical engineering and electronics industry largely acts as a downstream user, utilising substances and mixtures or manufacturing articles.

Particularly important parts of the Regulation are Annex XVII (restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles), Annex XIV (continuously updated list of substances subject to authorisation obligations under REACH) and the SVHC list, meaning the REACH Candidate List for Substances of Very High Concern that may become subject to authorisation obligations, which is continuously growing. Article 33 also stipulates that downstream users are obliged to pass on information about SVHCs contained in articles (products). It states that the supplier of an article that contains an SVHC in a concentration above 0.1 % weight by weight (w/w) must provide the recipient of the article with the information in his possession that is sufficient to allow safe use of the article. As a minimum, however, the recipient must be told the name of the relevant SVHC.

1 See http://std.iec.ch/iec62474

The BDI's 'Guidance for complying with the requirements of the REACH and CLP Regulation' provides a compilation of REACH information that has been put together and approved by a large part of German industry, e. g. useful sample texts/formulations for communication within the supply chain.[2] Further information is available in the Orgalime Guide[3] on REACH and from the German REACH-CLP-Biozid Helpdesk[4].

2.2 RoHS Directive 2011/65/EU

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment applies to equipment that requires electric currents or electromagnetic fields in order to work properly, and to equipment that is used to generate, transfer and measure such currents and fields and is designed to operate with a voltage rating not exceeding 1,000 volts for alternating current and 1,500 volts for direct current. Annex I shows product categories covered by the Directive. The scope will gradually be extended to all electrical products, provided no explicit exception applies.

Materials, components and assemblies that are not themselves electrical or electronic equipment as defined by the RoHS Directive but are associated with a product that is deemed to be electrical or electronic equipment as defined by the RoHS Directive must comply indirectly with the substance restrictions of the RoHS Directive if they form part of electrical and electronic equipment as defined by the RoHS Directive.[5] Within the supply chain, this indirect application of the RoHS Directive to materials, components and assemblies is normally only ensured under private law by means of contractual safeguards, confirmations or manufacturer declarations.

The technical documentation required to establish conformity is described in harmonised standard EN 50581:2012 'Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances' (German version:
DIN EN 50581 (VDE 0042-12):2013-02).

The Directive permits application/material-based exceptions to substance restrictions:

- One example of an application-based exception is number 4a ('mercury in other low pressure discharge lamps').
- One material-based exception is number 6c ('copper alloy containing up to 4% lead by weight').

Within the supply chain, details of valid exceptions under the RoHS Directive should be provided in line with harmonised standard EN 50581:2012. It is also generally useful to provide information on application-based exceptions in consultation with the market players involved.

Further details on the RoHS Directive can be found in the guidance for trade and industry on communication along the supply chain associated with the Ordinance on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (ElektroStoffVerordnung)[6] and in the Orgalime RoHS Guide[7] The European Commission has also prepared an FAQ document (not legally binding)[8].

2 See http://www.bdi.eu/stoffpolitik.htm
3 See http://publications.orgalime.org/
4 See http://www.reach-clp-biozid-helpdesk.de under REACH (Biozid = biocide)
5 See Section 1.3.6 of the Orgalime RoHS Guide – updated September 2012: http://publications.orgalime.org/
6 See http://www.zvei.org under Themen/Gesellschaft und Umwelt (Subjects/Society & The Environment – in German only)
7 See http://publications.orgalime.org
8 See http://ec.europa.eu/environment/index_en.htm unter Policies/Waste/RoHS in EEE/FAQ guidance document

3. Types of declaration and declaration strategies

Good information management is based on the reliable and trustworthy communication of mandatory and, if necessary, other relevant information throughout the supply chain. This requires companies to reach prior agreement on appropriate tools and procedures. In this context, the sections below set out selected types of declaration and declaration strategies that can be supported with international standard IEC 62474 (see Section 4 of this Guideline).

3.1 Types of declaration and the relevant requirements

As a general rule, declarations serve a specific aim and purpose. Their scope and content must ensure a balance between complexity and benefit. The declaration's precision (level of detail) must be geared to the relevant purpose and the requirements of legislation, suppliers and customers. Applying the basic principle 'as much as necessary, as little as possible' results in more efficient communication along the entire supply chain.

It is important to bear in mind that the current legislation relates to a list of specific restricted or banned substances and therefore does not require all parts of a product to be disclosed.

The following table (Table 1) provides an overview of key types of declaration and focuses in particular on the relevant requirements.

Abb. 4: © zabanski – Fotolia

Table 1: Types of declaration

	Supplier declaration and/or contractual agreement	Material declaration based on a list of substances	Full Material Declaration (FMD)
Description/notes	A supplier declaration and/or contractual agreement confirms that the concentrations of defined substances in the material, component or assembly do not exceed the permissible maximum values. If required, all exceptions that have been applied can also be listed. The requirement for the manufacturer to comply with the maximum values of the defined substances in the material, component or assembly is confirmed by means of a signed contract. It is important to bear in mind that supplier declarations or contractual agreements must be aimed at a specific material, component or assembly or cover a specific range of materials, components and/or assemblies. **Notes:** Compliance with one or more statutory or proprietary requirements is confirmed by the supplier and/or agreed between supplier and customer.	Material declaration based on a list of substances provide information on the concentration of the substances defined in the lists. If required, all exceptions that have been applied can also be listed. Standard DIN EN 50581 (VDE 0042-12):2013-02 refers to standard IEC 62474, which is explained in Section 4 of this document. **Notes:** The material declaration based on a list of substances (e. g. in the IEC 62474 database of declarable substances and groups of substances) identifies all substances in the list and indicates the proportion contained in the product if present. Rather than guaranteeing compliance with the prescribed specifications (supplier declaration and/or contractual agreement), the material declaration identifies all substances that are of particular interest to the customer, together with the relevant proportions.	There is no standard definition of which substances must be listed in a FMD and in what format. Both the substances in question and the declaration's level of detail vary from company to company and no generalisation is possible. **Notes:** Companies use FMDs for many different reasons. All legal and proprietary requirements can, in principle, be covered if there is an appropriate definition of how the FMD is to be drawn up.
DIN EN 50581 (VDE 0042-12):2013-02	**Supplier declaration and/or contractual agreement**	**Material declaration**	
	Harmonised standard EN 50581:2012 (German version: DIN EN 50581 (VDE 0042-12):2013-02) specifies the technical documentation that a manufacturer needs to prepare to confirm conformity with substance restrictions. In addition to this, it explains that the standard can also be used for other global substance-related regulations. The standard refers to the ‚supplier declaration and/or contractual agreement' and the ‚material declaration' or analytical test results as means of collecting information.		

3.2 Declaration strategies

The need to evaluate legal and other company-specific requirements normally means introducing and implementing declaration strategies. The declaration tool can be anything from a paper file to a fully integrated IT system.

Table 2 lists the advantages and disadvantages of the various strategies and a number of selected criteria for evaluating types of declaration. The strategies are not prioritised, though. It is more a case of everyone involved within the relevant value-added chain agreeing on the appropriate strategy to be selected.

Supplier and/or material declarations based on a list of substances (see Section 3.1) can provide information about the potential presence of relevant substances in a legal or customer-related context for a company.

Abb. 5: © Kautz15 – Fotolia

In most cases, the purpose of an FMD-based declaration strategy is to enable a company to evaluate its own product portfolio against the currently applicable substance restrictions and bans and to ensure it is ready for future substance-related requirements if appropriate. If possible, there should be a way of reconciling customer requirements relating to individual substances or lists of substances with existing data.

The relevant company decides to implement one of the two forms of strategy based on its own requirements and those of the sector in question.

Declaration strategies can only depict future substance restrictions and bans to a limited extent. No strategy can completely remove the need to monitor legal requirements and communication in the supply chain. Possibilities for obtaining information should be used as appropriate. For example, the members of the ZVEI working group on substance policy are regularly informed of changes in this area.

It is to be expected that the need for information will grow, amongst other things due to legal requirements. The structured arrangement of product-specific material and substance information in the supply chain is therefore a desirable goal.

Table 2: Declaration strategies

	Supplier declaration and/or contractual agreement	Material declaration based on a list of substances	Full Material Declaration (FMD)
Know-how protection	Apart from the supplier or material declaration, which is based on a list of substances, there is no declaration relating to the alloy composition or substance formulation. This guarantees the protection of know-how.		Relevant substances can be anonymised with a relevant note in the declaration so as to ensure that know-how is protected. Legally restricted/ banned and declarable substances cannot be anonymised. The extent of anonymised details is normally limited.
Effort of declaration	Preparing the declaration requires only minor effort.	Ideally, the declaration is prepared based on a list of substances, e. g. in line with international standard IEC 62474, so as to minimise the amount of work required in the supply chain.	A large amount of work is involved in preparing the declaration, especially in the case of complex components and/or assemblies.
	Any new legal requirements and/or changes to the relevant exceptions require an evaluation of the existing supplier declarations and, if appropriate, additions or a new version. The relevant supply chain will need to be involved in this process.	In the case of customised substance lists, it needs to be checked, for example, whether these are already covered by international standard IEC 62474. If additional substances need to be included due to new customer requirements, the existing declarations may need to be re-evaluated. The supply chain will need to be involved in this process.	PDF/HTML-based FMDs have proved suitable in the case of less complex components and/or assemblies such as electrical components. This form of declaration also includes 'umbrella' specifications, which are used for families of products with largely identical structures (e. g. a range of capacitors with various capacities). In this case, a small preparation and modification effort. The data can be transferred to other declaration systems either manually or with system support if necessary. Current umbrella specifications and the relevant instructions on their preparation are available from the ZVEI's Electronic Components and Systems Division.
	For many legal or sector-specific requirements, the need for additions/a new version can be avoided using contractual agreements.	Due to the large number of customised substance lists and the associated internal checking work, this type of declaration can generate additional work.	
Availability of data	Within the value-added chain, the need for data to be available is more widely accepted in the case of legally regulated substances than in the case of non-regulated substances.		The manufacturer of a complex component and/ or assembly does not normally have sufficient knowledge to provide a complete FMD independently. In principle, FMDs are therefore normally created in such a way that the relevant supply stage also prepares the declaration for its area of expertise: > materials > components > assemblies > end products Applying this idealised procedure produces extremely accurate FMD data.
Evaluation of new substance requirements	In line with Section 4.3.5 of DIN EN 50581 (VDE 0042-12):2013-02, manufacturers must ensure that a) the technical documentation provided and the individual documents it refers to are subjected to regular checks and are thus valid b) the technical documentation also includes any changes to materials, components or assemblies.		Evaluation is possible depending on how the FMD has been defined and designed. For specific sectors, the FMD includes a list of substances. Direct evaluation is possible if the substance is included in the list of substances or has been declared. Depending on the regulations relating to implementation of the FMD, the declaration may need to be revised after updating the list of substances, in particular in the case of anonymised substances. This ensures that the database is updated and evaluation is possible, albeit with a delay.

4. IEC 62474: Material Declaration for Products of and for the Electrotechnical Industry

Work on developing international standard IEC 62474 on material declaration for products from and for the electrical engineering industry started in 2006. The IEC's newly founded Technical Committee 111 at international standardisation level (IEC/TC111) was tasked with developing a material declaration standard for the electrical engineering and electronics industry. This was to cover the following aspects:

- Material declaration process
- Declarable substances
- Data exchange

Standardisation work was based on existing documents/procedures, in particular IEC PAS 61906 (material declaration process), which was developed in Germany, the Joint Industry Guide – JIG (substance lists/declarable substances with the relevant criteria) and IPC1752 (data exchange).

The decision to include regulations relating to chemicals on a global scale led to the parallel development of a database that is separable from the standard in process engineering terms and makes it far easier to update the relevant contents, the material categories and the data elements for exchanging information.

The standard and the database were accepted by a clear majority and published in 2012. Since then, the database has also been available free of charge at:
http://std.iec.ch/iec62474

When international standard IEC 62474 was published and a team established to update the database, other material declaration initiatives (e. g. the Joint Industry Guide – JIG) stopped their activities in this area and recommended applying international standard IEC 62474 from then on.

The Technical Report (TR) 'Guidance on implementing IEC 62474' is currently being prepared by IEC/TC111 working group 1. This supplementary document is aimed at companies that develop software for exchanging material declarations and companies that prepare material declarations in line with international standard IEC 62474 or request and receive such declarations from their suppliers.

4.1 Key points of international standard IEC 62474

International standard IEC 62474 specifies the procedure, content and format for preparing material declarations for the products of companies that operate in or supply the electrical engineering and electronics industry. It thus sets out the data exchange requirements, content and format for material declarations within the supply chain. The data exchange requirements and format are also applicable for other branches of industry.

The purpose of international standard IEC 62474 is to provide data that

- should make it possible to evaluate product compliance with statutory regulations relating to chemicals (see Chapter 2) or, if appropriate, to answer market enquiries (from the trade/consumers/disposal companies) about the material composition of products.
- Can serve as a basis for providing information during the green product design process and throughout the product life cycle.

In this connection, it is important to take into account that process chemicals and emissions when products are being used do not fall under the scope of the international standard.

Although the international standard starts by specifying basic requirements, it offers manufacturers and suppliers of products a degree of flexibility in selecting further company-specific requirements.

If requirements that extend beyond this basic level are applied and/or agreed between the supply chain partners, further requirements apply to the material declaration. To ensure that data is exchanged correctly in such cases, too, these specific requirements are described in the standard.

The basic data model thus supports the entire scope – from declaration against a list all the way to the FMD – without specifying a particular strategy and leaves this choice up to companies.

Declarable substances respectively groups of substances

A key part of the standard is to define criteria for declarable substances respectively groups of substances. Substances and groups of substances that meet these criteria are already listed in the IEC 62474 database or are included in it after being checked.

Since the standard applies to the electrical engineering and electronics industry, only substances or groups of substances that may be present in products of this sector and in supplier products in the electrical engineering and electronics industry are included.

Generally speaking, the IEC 62474 database applies three different criteria for declarable substances respectively groups of substances:

- Criterion 1: substances respectively groups of substances from applicable regulations relating to chemicals.
- Criterion 2: substances respectively groups of substances from regulations relating to chemicals without a defined reference date.
- Criterion 3: substances respectively groups of substances from non-statutory, sector-specific requirements.

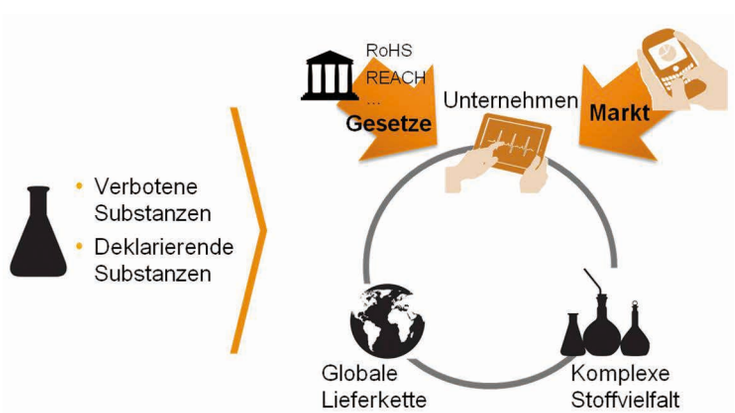

Abb. 6: © Weidmüller Gruppe

The criteria themselves are not simply aimed at legally restricted and/or banned substances but also cover substances subject to information obligations such as reporting or labelling. As an international IEC standard, it must be possible to systematically trace back declarable substances respectively groups of substances that fall under criteria 1 and 2 to legislation in IEC member states.

It is mandatory to declare substances respectively groups of substances in the product that are listed under criterion 1 or 2 in the IEC 62474 database, whereas the declaration of substances listed under criterion 3 is optional.

Basic requirements for a material declaration in line with IEC 62474

If the product application is subject to declaration, it is compulsory to declare substances respectively groups of substances that fall under criteria 1 and 2 and are present in quantities above the limit specified in the IEC 62474 database.

In this connection, it is important to note that the presence of a restricted and/or banned substance does not necessarily represent a discrepancy. For example, most substance restrictions and bans do not apply worldwide and, often, only specific applications are restricted and/or banned, or there are exceptions to the substance restrictions and bans. The material declaration in line with international standard IEC 62474 must be seen as an aid enabling the recipient to evaluate compliance with the requirements applying to substances respectively groups of substances. However, this by no means corresponds to a declaration of conformity. Generally speaking, the recipient is responsible for evaluating conformity.

Further requirements

Over and above the basic requirements set out above, the standard enables additional details to be declared up to the level of an FMD. However, this entails additional requirements that need to be met.

One example of such further requirements is indicating exceptions to the substance restrictions under RoHS Directive 2011/65/EU. The declaration of such exceptions does not fall under the basic requirements set out above and is therefore optional. If exceptions are declared, however, further details must be provided so as to ensure unambiguous data exchange. International standard IEC 62474 does not provide its own RoHS list of exceptions. Only the exceptions of other authorities and the relevant abbreviations can therefore be used for declaration purposes. In order to clearly identify the version of the list the exceptions apply to, this must be indicated in the declaration.

If the recipient of the material declaration requests the mandatory declaration of RoHS exceptions from its supplier, this declaration and the information on the presence of the declarable substance enables the recipient to evaluate RoHS conformity.

The IEC 62474 database

Given the different and frequently changing European and non-European regulations relating to chemicals, it is extremely important that regulations are kept up-to-date so as to ensure product compliance. Consequently, international standard IEC 62474 has been linked to a database and a validation team set up within IEC Technical Committee 111 (IEC/TC111) to make sure the content is regularly updated. The standard itself remains unaffected. Update cycles are kept short, because the national standardisation committees give their voting rights to their respective member of the validation team. As a result, changes can be made to the database in less than half a year. Details and further information about the validation team can be found in Annexes I and II. The updating work is also explained here and the procedure used by the validation team when updating the database is described based on the example of the REACH Candidate List.

In basic terms, the IEC 62474 database is a collection of data elements that are available to download free of charge at
http://std.iec.ch/iec62474

The database contains the following entries in table form:

- List of declarable substances and groups of substances
- List of reference substances for declarable groups of substances
- List of material classes
- XML material declaration schema
- List of data elements.

Annex

Annex I: International standard IEC 62474: How is the database kept up-to-date?

The procedure the validation team uses to update the IEC 62474 database is explicitly stipulated and described in the IEC/ISO directives. This means a validation team can keep data elements up-to-date without changing the actual standard. Update cycles are kept short, because the national standardisation committees give their voting rights to their respective member of the validation team. As a result, changes can be made to the database in less than half a year, something that has already been demonstrated several times in practice.

A two-stage process based on the IEC/ISO directives is used to keep the database up-to-date. National standardisation committees submit requests for changes to the IEC 62474 database. During the first stage, the validation team verifies whether the change requests submitted meet the standard's criteria and amends them as appropriate. During the second stage, the changes are put to the vote. It is not possible to submit comments during this second stage. However, change requests can be withdrawn on the basis of existing comments and, during the next cycle, amended accordingly and re-submitted. If the team votes in favour of changes, they are applied in the database.

In Germany, DKE/K 135 appoints the validation team delegates.

All new or change requests for the database that are to be put to the vote are distributed via the DKE and the relevant German bodies (including the ZVEI) and are subsequently evaluated during a six-week voting process.

Change requests relating to substance entries already in the database and substances respectively groups of substances that are to be newly incorporated can also be submitted to the validation team via DKE/K 135. During this process, criteria 1 to 3 as explained in Section 4.1 need to be taken into account and the official change request format (available via the DKE) needs to be used.

Annex II: International standard IEC 62474: Work of validation team based on example of REACH Candidate List

The REACH Candidate List is a good example for showing how the validation team works. In basic terms, substances on the REACH Candidate List are declarable for the purposes of the standard. Since they are regulated by the REACH Regulation and give rise to a legal obligation to provide information within the supply chain – provided the criteria of Article 33 of the REACH Regulation are met (see Section 2.1) – they must be included in the IEC 62474 database under criterion 1. One condition for this, however, is that the relevant substance has applications in the electrical engineering and electronics industry. The Candidate List is usually updated at half-yearly intervals. The validation team has also adapted to this cycle and systematically updates the IEC 62474 database on a half-yearly basis to provide the supply chain with up-to-date information as quickly as possible.

The database update cycle, which takes six months, is linked to the official ECHA procedure for including new substances in the REACH Candidate List. During this process, the validation team reminds the national standardisation committees of the possibility of submitting new and/or change requests. During this phase, the validation team collects information as to whether the new substances under discussion for the REACH Candidate List are used in the electrical engineering and electronics industry. If they are, the validation team itself submits substance-specific new and/or change requests. Requests received from the national standardisation committees are also examined and amended if necessary. All requests are then put to the vote. If the vote is in favour of the request, the database is amended accordingly. As already indicated, it normally takes six months from the time the national standardisation committees are invited to submit requests to the database being updated. In future, efforts will be made to update the IEC 62474 database approximately three months after the new Candidate List is published.

The validation team has set itself the task of independently examining the relevance of the substances on the Candidate List and including the relevant substances directly. In this connection, any information relating to known applications is useful, as a point is made of listing these applications in the database so as to provide specific details. Consequently, it is helpful to incorporate examples of applications directly into the process so as to optimise further development of the database. The ZVEI's working group on substance policy can be used as a contact for this purpose.

List of acronyms and glossary

Acronym	*Description/explanation*
BDI	Bundesverband der Deutschen Industrie e.V. (Federation of German Industries) http://www.bdi.eu/
DKE	German Commission for Electrical, Electronic & Information Technologies of the DIN and VDE. The DKE prepares national standards and safety regulations for electrical engineering, electronics and information technology and also telecommunication standards. The focus is on harmonisation with European and global standards. https://www.dke.de/de/Seiten/Startseite.aspx
DKE/K 135	DKE committee for recording substances in electrical engineering products. DKE/K 135 prepares stipulations for the recording and declaration of chemical substances in products used in the electrical and electronics industry. The committee is responsible for IEC 62321 standards, which provide test methods for defining the concentration of specific substances of concern. A further key task of DKE/K 135 is maintaining IEC 62474, which defines the data exchange requirements, content and format for material declarations within the supply chain (can also be applied to other branches of industry). https://www.dke.de/de/Wirueberuns/DieDKE-Struktur/Organisationsstruktur unter Fachbereich 1, DKE/K 135
ELV	End of Life Vehicles – Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of-life vehicles. See Official Journal of the European Union: http://eur-lex.europa.eu/
EN 50581:2012 DIN EN 50581 (VDE 0042-12):2013-02 (deutsche Fassung)	Standard EN 50581:2012 'Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances' was published in the Official Journal of the European Union (2012/C 363/05). It is therefore a harmonised standard in the sense of RoHS 2 and replaces the presumption of conformity (see Article 16 of RoHS 2). The standard describes the procedure for preparing the technical documentation required to establish RoHS conformity. See Official Journal 2012/C 363/05 of the European Union: http://eur-lex.europa.eu/ This standard is available from Beuth Verlag: http://www.beuth.de/de/norm/din-en-50581-vde-0042-12-2013-02/168088813
EU	European Union http://europa.eu/index_de.htm
FMD	Full Material Declaration
GADSL	Global Automotive Declarable Substance List http://www.gadsl.org/
IEC	International Electrotechnical Commission. The IEC is the international standardisation organisation for electrical engineering and electronics standards. http://www.iec.ch/
IEC 62474	International standard on Material Declaration for Products of and for the Electrotechnical Industry. This standard sets out the data exchange requirements, content and format for material declarations within the supply chain. Even though this international standard was developed for the electrical engineering industry, the data exchange requirements and format can also be used for other branches of industry. http://std.iec.ch/iec62474 This German standard is available from Beuth Verlag: http://www.beuth.de/de/norm/din-en-62474-vde-0042-4-2013-05/171905309

Acronym	*Description/explanation*
IEC/PAS 61906	The standard entitled 'Procedure for the declaration of materials in products of the electrotechnical and electronic industry' specifies the form and procedure for preparing material declarations in the electrical and electronics industry. It was used as a basis for the work on international standard IEC 62474. The standard was withdrawn in May 2013 with a transition period running to 26 April 2015.
IPC	Association Connecting Electronics Industries. This global trade association represents the printed circuit board and electronics industries, their customers and their suppliers. http://www.ipc.org/DE/default.aspx
IPC 1752A	This standard provides a defined XML schema for exchanging material declarations within the supply chain. It was used as a basis for the work on international standard IEC 62474.
ISO	International Organization for Standardization http://www.iso.org/iso/home.html
JIG-101	The Joint Industry Guide (JIG-101 Ed. 4.1) includes substance lists and statutory requirements stating substance limits. A selection of specified data fields provides assistance in exchanging information on materials and substances in the supply chain. Version 4.1 of JIG-101 was taken into account during the work on international standard IEC 62474. The updating of JIG-101 stopped with the publication of Version 4.1 and the regularly updated international standard IEC 62474 is recommended instead.
Material declaration	Indication of constituent elements used at material, component and assembly levels in varying forms and degrees of detail. In this guide, 'material declaration' is used as a generic term covering supplier declarations and/or material declarations based on a substance list and also FMDs.
MD	Material declaration
Orgalime	European association representing the interests of the mechanical, electrical & electronics and metalworking & metal articles industries. http://www.orgalime.org/
Product compliance	Product compliance refers to the requirements a product must satisfy before it is brought into circulation. Generally speaking, this thus means compliance with regulations (e. g. statutory requirements and directives/guidelines or customer-specific requests). Product compliance requirements can vary greatly.
RISL	Railway Industry Substance List http://www.unife-database.org/
REACH	Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94, as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC. See Official Journal of the European Union: http://eur-lex.europa.eu/
RoHS	Directive 2011/65/EU ('RoHS 2') of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. Follow-up to Directive 2002/95/EC ('RoHS 1'). See Official Journal of the European Union: http://eur-lex.europa.eu/
Stoffliste	Listing of substances that are restricted, banned or subject to specific declaration requirements based on statutory provisions.

Acronym	*Description/explanation*
SVHC	Substances of Very High Concern in line with the REACH Regulation. The Candidate List of Substances of Very High Concern for authorisation is available at: http://www.reach-clp-biozid-helpdesk.de/de/REACH/REACH.html under Candidate List or http://echa.europa.eu/de/candidate-list-table
TC111	IEC Technical Committee 111 entitled 'Environmental standardisation for electrical and electronic products and systems'.
VDE	Verband der Elektrotechnik Elektronik Informationstechnik e.V. (Association for Electrical, Electronic & Information Technologies) http://www.vde.com
ZVEI	ZVEI - Zentralverband Elektrotechnik- und Elektronikindustrie e.V. (German Electrical and Electronic Manufacturers' Association) http://www.zvei.org

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