

Directive for the Ban and Declaration of Ingredients

Descriptors: Material compliance, directive, safety data sheet, material bans, directive

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Revision history

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Preface - Purpose

This guideline contains all material and substance-related requirements from national and international laws, directives, standards and customer requirements, in their current form.

This guideline supports Zollner Elektronik AG and its vendors/suppliers in the responsible and environmentally responsible handling of materials/substances and products during the development, manufacture, use and disposal of accrued intermediate and end products.

It contributes to a high level of protection for human health and the environment with the goal of ensuring sustainable development. It also requires that materials of concern are replaced by less hazardous materials or technologies.

1. Scope

With this guideline, Zollner Elektronik AG regulates forbidden ingredients and materials with mandatory declaration in products (→ *Digit 3.1*) and the associated duty to inform. Included in this regulation are production aids and operating materials, if they remain as part of the product, or are to be classified as hazardous materials, as well as packaging and transport materials, if they are delivered to the customer with or on the product. Zollner Elektronik AG distributes its products worldwide. In this respect, this guideline also includes market-specific regulations as a requirement.

Zollner Elektronik AG requires that all products comply with the requirements of this guideline, and that the duty to inform is performed in order to guarantee regulation-compliant distribution of its products.

Material and substance-related product requirements (Material Compliance requirements) in this guideline are just as important as are other product requirements.

Adherence to this guideline is the responsibility of vendors/suppliers.

The obligation of the vendors/suppliers of adherence to statutory provisions from national and international lawmakers (e.g.: GB/T 30512-China ELV, GB/T 26572 China RoHS, etc.) are not influenced by this guideline.

Tips for supply sources and help:

- The platform for European ordinances, directives and resolutions in all existing versions and official European languages. (You must enter the publishing years and number in the search screen (→ Digit 4 and Digit 5): <http://eur-lex.europa.eu/>
- Support area of the European Chemical Agency (ECHA): <https://echa.europa.eu/support/guidance>
- REACH-CLP-Biocide Help desk – National Federal Information Office: <http://www.reach-clp-biozid-helpdesk.de/de/Startseite.html>
- REACH Help desk – German Federal Environmental Agency: <http://www.reach-info.de>

In individual cases, the technical data sheets for all utilized raw materials and production aids are to be presented to Zollner Elektronik AG for review. Zollner Elektronik

AG retains the right of inspecting products in the laboratory.

Zollner Elektronik AG has made the currently valid edition of the Guideline for the Ban and Declaration of Ingredients available from our Home Page www.zollner.de:

- Services & PLM > Material Compliance

It can also be requested from Zollner Elektronik AG Purchasing.

The vendor/supplier is obligated to check every 6 months for an updated issue of the Guideline for the Ban and Declaration of Ingredients. When the guideline is updated, the new version replaces the previous version and with that is immediately valid. Zollner Elektronik AG does not notify vendors/suppliers of the updating of the guideline. A change in the law does not necessarily require updating of the guideline, however, that does not relieve the vendors/suppliers from the obligation of observing the change in law.

The vendor/supplier is obligated to transmit the stipulated information from Digits 4, 5 & 6, listed statutory regulations, at no cost.

The vendor/supplier is obligated to inform Zollner Elektronik AG about possible consequences or product changes due to new or changed statutory requirements in a timely manner.

This applies in particular to statutory requirements with time limited exceptions that have been taken advantage of, and which are about to expire. Correspondingly, the vendor/supplier is to abide by the regulations listed in the "Guideline for Reporting Product and Process Changes". This can be requested from Zollner Elektronik AG Purchasing.

Communication regarding the declarations of ingredients named in this guideline is to be sent immediately and without prompting to this email address: pcn@zollner.de.

2. Normative References

None

3. Definitions

Terms are explained here for which, in the sense of this standard, Zollner Elektronik AG feels there is need for definition. Definitions specific to ordinances can be read in the respective ordinance and are listed here in exceptional cases for better understanding of the contents of the standard with reference to the respective ordinance.

3.1 Product

A Product is anything Zollner Elektronik AG provides as a deliverable, as well as that, which it produces itself and remains on a product, which is distributed by Zollner Elektronik AG.

Examples of Products:

- Complete product, including trading goods
- Assembly parts, components
- Products
- Spare parts
- Semi-finished products
- Basic materials

- Preparations or mixtures
- Pure substances/materials
- Soldering materials
- Glues
- Lubricants
- Cooling lubricants
- Surface degreaser
- Corrosion inhibitor
- Sandblasting materials
- Curing materials
- Forming materials
- Packaging including conditioning materials, like desiccant or corrosion inhibitors
- Transport materials

3.2 Forbidden Substances

Forbidden substances are all substances for which a basic ban has been declared according to applicable regulations or internal Zollner specifications or for which there is a ban due to other specifications (use limitation, accreditation requirement, etc.).

3.3 Substances with Mandatory Declaration

Substances with Mandatory Declaration are all substances for which an obligation of declaration has been declared according to applicable regulations or internal Zollner specifications.

3.4 Restriction

Conditions for the manufacture, use or distribution (of a substance/material), or the ban of such activities: possible, if the manufacturing, marketing or use of substances carries an unacceptable risk to human health or the environment (REACH Ordinance).

3.5 Distribution

Transfer to a third part in return for payment or at no cost or provision to a third party. Import is considered distribution.

3.6 License Requirement

In contrast to conventional chemical bans, a license requirement is a ban with reservation of authorization. That means use of a substance listed in Annex XIV - REACH (→ *Digit 4.1.1*) is fundamentally forbidden, unless a license has been granted.

3.7 Substances of Very High Concern (SVHC)

Substances of Very High Concern (SVHC) are substances that meet the criteria in Article 57 of the REACH Ordinance:

- Substances with carcinogenic, mutagenic or reproductive toxic properties (CMR Categories

- 1 and 2)
- Substances that are assessed by the criteria in Annex XIII as persistent, bioaccumulative and toxic (PBT substances).
 - Substances that are assessed by the criteria in Annex XIII as very persistent and very bioaccumulative (vPvB substances).
 - Substances with equally grave properties, e.g.: substances with endocrinal properties or substances that do not meet PBT/vPvB criteria but are persistent, bioaccumulative and toxic and have severe, irreversible effects on humans or the environment.

3.8 Homogeneous Material

A Homogeneous Material is a material of thoroughly consistent composition or one made of various materials that cannot be taken apart or separated with mechanical processes, like screwing, cutting, breaking, grinding or sanding into individual materials

Example: a screw consists of a metal body, a tin application, a passivation layer and a subsequent coating. Thus the screw has four homogeneous materials.

3.9 Packaging/Packaging Components

Packaging is a manufactured product made from any material for the acceptance, protection, handling, delivery or exhibition of goods that reach from raw materials all the way to a processed product and is passed from the manufacturer to the user or consumer. All “non-returnables” used for the same purpose are to be considered as packaging (→ EU Packaging Directive Article 3, Para.1).

Packaging components are a part of the packaging, which can be separated by hand or with simple mechanical processes. Additional elements that hang directly on the product or are affixed and fulfill a packaging function apply as packaging - unless they are integral to the product.

3.10 Batteries and Accumulators

Batteries and Accumulators are electrical energy source coming from one or more (not rechargeable) primary cells or from one or more (rechargeable) secondary cells, which is derived from the immediate conversion of chemical energy.

3.11 Toys

Toys are products designed or obviously meant for children ages up to 14 years for play.

4. Forbidden Substances

This digit lists the statutory regulations that deal with substance/material bans from the viewpoint of Zollner Elektronik AG and its customers. **These substance/material bans are** absolutely to be adhered to for all product deliveries to Zollner Elektronik AG as well as all relevant Zollner products.

If known, the current issue of the regulations is added to the left of the respective source, if it deviates from <http://eur-lex.europa.eu/>.

4.1 Material/Substance Regulations and Bans - Relevant to All Products

The chemical substance regulation's requirements described under Digit 4.1 apply to all products that are delivered to Zollner Elektronik AG.

4.1.1 Ordinance (EC) No. 1907/2006 (REACH)

The so-called REACH Ordinance should ensure a high protection level for humans and the environment. According to REACH, manufacturers, importers and subsequent users must register their chemicals, and they are alone responsible for their safe use (European Chemical Agency – <https://echa.europa.eu/de>).

REACH Ordinance requirements (registration, duty to inform, etc.) apply to all substances, preparations and products that are delivered or manufactured in the EU, fall under the REACH area of application and are delivered to Zollner or should be utilized in the production process.

Ordering parties outside the European Union must name an 'only representative', if they deliver substances/materials, preparations and products into the area of application of the REACH Ordinance. The 'only representative' ensures that all applicable obligations from REACH are fulfilled.

4.1.1.1 Annex XIV - Directory of substances/materials with accreditation requirements

Annex XIV of the REACH Ordinance lists substances/materials that are fundamentally banned and for which an accreditation requirement is required for further use (→ *Digit 3.6*). The publication names a substance-related transition period ("expiration date"), from when the substance can no longer be utilized, or only after provision of the accreditation. The substances/materials will have been published in the SVHC Candidate List (→ *Digits 3.7 and 5.1*) and remain listed there.

Useful information about the source:

<https://echa.europa.eu/de/addressing-chemicals-of-concern/authorisation/recommendation-for-inclusion-in-the-authorisation-list/authorisation-list>

4.1.1.2 Annex XIV - Directory of Substances/Materials with Accreditation Requirements

Annex XVII of the REACH Ordinance regulates restrictions on bringing dangerous substances onto the market and using them.

Useful information about the source:

<http://echa.europa.eu/addressing-chemicals-of-concern/restrictions/substances-restricted-under-reach>

4.1.1.3 Attachments 1 to 6, 8 and 9 - CMR Substances and Azo Dyes

Substances with carcinogenic, mutagenic or toxic to reproduction properties (CMR Substances) and azo dyes fall under various bans and are listed in Annexes 1-6, 8 and 9 of the REACH Ordinance.

Useful information about the source:

The annexes are not a separate link on the ECHA website but are directly attached to the ordinance.

4.1.2 Directive 2011/65/EU (RoHS)

The so-called RoHS Directive limits the use of specific hazardous substances in electric and electronic devices. It was made into law in all EU States and went into force in Germany on the 2nd of January, 2013, with the Ordinance for limiting the use of hazardous substances in electric and electronic devices (*Elektro Stoff V*).

The declared substance bans and exceptions refer to the maximum concentration in a homogeneous material (→ *Digit 3.8*) of every product and are to be taken from the currently valid issue of the directive.

If an exception regulation is made use of in accordance with the RoHS Directive, this is to be reported to Zollner Elektronik AG at this email address: pcn@zollner.de.

4.1.3 Directive 94/62/EC (Packaging)

The 94/62/EC Directive on packaging and packaging waste limits the concentration of heavy metals in packaging (Article 11).

4.1.4 Ordinance (EU) No. 528/2012 (Biocides)

The (EU) directive number 528/2012 regulates the accreditation of biocides in the European Union and with that standardizes the provision and use of biocide products on the European market. Accreditation is issued with a graduated procedure.

Every vendor/supplier to Zollner Elektronik AG is obligated to completely fulfill the specifications and obligations for biocide products and handled goods, if its products fall under the scope of the ordinance. Furthermore, the duty to inform must be satisfied, if a product was handled that contains biocides and is to be marked according to the ordinance.

Only those products are to be utilized

- that were not treated with biocides or
- with a biocide product accredited in the EU.

4.1.5 Ordinance on Hazardous Substances (GefStoffV)

The GefStoffV is an ordinance of German labor protection regulations and should protect humans and the environment from hazardous substances within the scope of their work activities.

The requirements of Annex II (to § 16, Para. 2) "Special Manufacturing and Use Restrictions for Specific Substances, Preparations and Products" are to be observed in particular.

4.1.6 Ordinance (EC) No. 850/2004 (POP)

The objective of (EC) ordinance number 850/2004 is to protect human health and the environment from persistent, organic and harmful substances. This is accomplished with a ban or restriction of the manufacture, bringing to market and use of persistent, organic substances. The listed substances can be found in the annexes to the ordinance as well as in the (EU) number 757/2010, which contains changes and supplements.

4.1.7 Directive (EU) No. 517/2014 (Greenhouse gases)

The goal of (EU) directive number 517/2014 is to protect the environment by reduction of emissions of fluorinated greenhouse gases and replaces the previous ordinance (EC) number 842/2006 (F gases). This serves to satisfy the defined, obligatory specifications and goals of the international environmental agreements (Kyoto and Montreal Protocols). A list of the bans and restrictions can be found in the ordinance annexes.

4.1.8 Clean Air Act (42 U.S.Code Title 42 Chapter 85 Sub-chapter VI)

The Clean Air Act (42 U.S.Code Chapter 85 Sub-chapter VI) is a US federal law for keeping the air clean with the further goal of protecting the ozone layer by reducing the emission of greenhouse gases - similar to the Greenhouse Gas Ordinance (EU) number 517/2014 (→ *Chapter 4.7*).

Useful information about the source:

<https://www.epa.gov/clean-air-act-overview/clean-air-act-text>

<https://www.epa.gov/clean-air-act-overview/title-vi-stratospheric-ozone-protection>

4.1.9 Ordinance (EC) No. 1005/2009 (Ozone)

(EC) Ordinance number 1005/2009 regarding substances that lead to depletion of the ozone layer regulates the production, import, export, bringing to market, use, recovery, recycling, preparation and destruction of substances that deplete the ozone. The substances regulated can be found in the associated annexes to the ordinance.

4.1.10 Directive 2006/66/EC (Batteries and Accumulators)

Directive 2006/66/EC regarding batteries and accumulators, as well as used batteries and accumulators, regulates the bringing batteries and accumulators to market (→ *Digit 3.10*). It is particularly forbidden to bring batteries and accumulators to the market that contain hazardous substances like mercury and cadmium.

4.1.11 Directive 2009/48/EC (Toy Safety Directive)

Directive 2009/48/EC regarding the safety of toys only contains the most important safety challenges for toys, including special safety requirements related to physical and mechanical properties, flammability and chemical characteristics, electrical properties, hygiene and radioactivity.

4.1.12 Polycyclic Aromatic Hydrocarbons (PAH) - GS Specification

The information from the Product Safety Commission (AfPS) in the GS specification lists substance thresholds for the examination and assessment of polycyclic aromatic hydrocarbons (PAH) in the granting of the GS mark. The substance threshold differs from that in REACH

Annex XVII (→ *Digit 4.1*) and must therefore be observed separately.

Useful information about the source:

German Federal Office for Occupational Health & Safety and Health Care (“baua”):

<http://www.baua.de/de/Themen-von-A-Z/Ausschuesse/AfPS/Aktuelles.html>

4.2 Material Regulations and Bans - for Products in Varying Areas of Application

Contrary to the substance regulations in digit 4.1, vendors/suppliers must check whether their products fall under the area of application of the respective requirement. This is dependent upon the installation and use location of the delivered product. If a vendor/supplier cannot clarify the situation by themselves, they must consult with the contact person at Zollner Elektronik AG.

4.2.1 Directive 2000/53/EC (End of Life Vehicles / ELV)

Directive 2000/53/EC regarding end-of-life vehicles regulates the utilization of automobiles by recycling. It includes applicable substance bans for heavy metals and chromium, for example (VI).

The substance regulation refers to the maximum concentration in a homogeneous material of every item.

Substance regulations from the 2000/53/EC Directive are to be used for all delivered products used for the automotive area.

4.2.2 Global Automotive Declarable Substance List (GADSL)

The “Global Automotive Declarable Substance List” is a list of substances, which are banned or have a declaration obligation in auto parts.

All data sheets that contain listed confidential pure substances must be checked after every update or change. If the data sheets have mandatory declaration or banned substances, these data sheets must be immediately updated and renewed and sent to Zollner Elektronik AG.

All substance bans named in the GADSL (status “P”), in the respective, valid version (www.gadsl.org), cannot exceed the applicable thresholds in the predefined use fields.

VDA 232-101 (same as the GADSL, see www.gadsl.org) is to be applied to all delivered products used in the automotive area.

4.2.3 Railway Industry Substance List (RISL)

The “Railway Industry Substance List” is a standardized list at the European and international level with all substances that are either forbidden or should be avoided in the construction of Rail Technology components and systems. Use of individual substances can be subject to restrictions or bans for rail-related, technical materials, in order to not endanger humans and nature. This regulation refers to the manufacture, operation and/or disposal of rail technology for trains, locomotives and infrastructure components. You can see an overview of the statutory regulations of RISL by following this link: <http://www.unife-database.org/download.php>

Substance regulations from the 2000/53/EC Directive are to be used for all delivered products used for the Rail Technology area.

5. Declaration obligations

This digit lists regulations and specifications that have an obligation of declaration.

The current digit of the regulations is added to the left of the respective source, if it deviates from <http://eur-lex.europa.eu/> (→ Chapter 1).

Declarations of ingredients are to be sent immediately and without prompting to this email address: pcn@zollner.de.

5.1 SVHC Candidate List (EC) No. 1907/2006 (REACH)

The SVHC candidate list lists substances that are considered to be of special concern (→ Digit 3.6). First published in October of 2008, the European Chemical Agency (ECHA) supplements this list multiple times in a year as needed. If a substance that is listed in the candidate list is present in a product with more than 0.1 mass percent (w/w), the vendor/supplier is obligated to provide adequate information needed for safe use of the product (declaration obligation) .

This information is to be provided to Zollner Elektronik AG in accordance with Article 33 of the REACH Ordinance with the delivery of the product, without prompting and solely via e-mail to this address: pcn@zollner.de. This also applies, if such a substance is added to the candidate list during the ongoing supply relationship.

According to a decision by the European Court, the principle of “once a product, always a product” applies. Thus the information obligation is already to be applied for sub-assemblies.

As soon as a sub-assembly exceeds the concentration limit of 0.1%, the designation of the SVHC substance must be shared with Zollner Elektronik AG.

Useful information about the source:

Official, current SVHC candidate list according to REACH:

http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

5.2 Conflict Minerals (CM) – Dodd-Frank Act

The Dodd-Frank Act is a US ordinance signed in July of 2010, which obligates companies on the US Stock Exchange to abandon the use of raw materials from conflict regions. Since then, companies that use conflict minerals must provide a separate report about their origin. Conflict minerals in the sense of the law are cassiterite, coltan, wolframite and gold, from which the following four metals - known as 3TG - are produced:

- gold
- tin
- tantalum
- tungsten

If Zollner Elektronik AG receives a query from its customers regarding the origin of conflict minerals, these queries are sent to the supplier of them.

Further useful information:

<https://www.sec.gov/News/Article/Detail/Article/1365171562058>

5.3 Lithium Batteries

There are special regulations for the transport of lithium cells/batteries. These transport regulations (e.g.: UN 3090, UN 3480, UN 3481) were issued by the UN and apply to transports by land, water and air. Every cell or battery has a type for which proof must be provided that the requirements of all inspections in the UN manual “INSPECTIONS AND CRITERIA - PART III, SUB-SECTION 38.3” have been fulfilled. All lithium batteries and cells delivered to Zollner Elektronik AG must have been manufactured with a quality assurance program, which represents the currently valid dangerous goods regulation.

Compliance to the requirement is to be confirmed with the respective form for supplier queries about lithium batteries.

The vendor/supplier must update its compliance for the cells or batteries immediately, if the legal foundations of the dangerous goods regulation change in regard to required inspections.

The currently valid issue of the form for supplier queries about lithium batteries can be obtained upon request from the Purchasing department at Zollner Elektronik AG.

These requirements apply to all delivered goods.

6. Production Aids & Equipment and Operating Materials

Bringing to market, handling and working with production aids and operating materials always requires an assessment regarding national and international hazardous substance regulations as well as an inspection of product-related specifications, as long as the substance stays with the product. This digit includes specifications that are included based on statutory regulations and those Zollner Elektronik AG requires.

6.1 Safety Data Sheet

The safety data sheet is the central element for communication in the supply chain for hazardous substances and preparations. It provides important information on the characteristics, like, for example:

- Product identity
- Intended use
- Occurrence of hazards
- Safe handling
- Preventative measures
- Measures/action items in a hazard case

Requirements for content and form of the safety data sheet are regulated in Article 31 and Annex II of REACH Ordinance (EC) no. 1907/2006.

The supplier of such substances/preparations is responsible that the safety data sheet is technically correct and has been completed.

The safety data sheet is to be provided to Zollner Elektronik AG in paper form, in electronic format or as a download option, at no cost, on the day of the 1st delivery, at the latest. Vendors/suppliers must immediately update the safety data sheet in accordance with Article 31 (9), if

- new information is available, which could have an impact on risk management measures/action items,
- for which an accreditation has been issued or is denied,
- a restriction was issued.

The corrected version must be made available to the customer - if this has been delivered within the past 12 months.