



# SUPPLY CHAIN SUSTAINABILITY

## Environmentally Preferable Material Standard

Global 2023



# Our Brands

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A BELDEN BRAND

**HIRSCHMANN**  
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**lumbergautomation**  
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# Table of Content

<b>Foreword</b> .....	3
<b>1 Introduction</b> .....	4
1.1 Importance of Supply Chain Sustainability.....	4
1.2 Purpose of this Material Standard.....	4
1.3 Supplier Responsibilities .....	4
<b>2 Legal regulations and Belden requirements</b> .....	5
2.1 ISO 14001 .....	5
2.2 RoHS Directive 2011/ 65/ EU .....	5
2.3 REACH Regulation 1907/ 2006 .....	5
2.4 China RoHS SJT 11363-2006 .....	6
2.5 WEEE Directive 2012/ 19/ EU .....	6
2.6 California Proposition 65 .....	7
2.7 POP Regulation (EU) 2019/ 1021 .....	7
2.8 PFAS.....	7
2.9 Toxic Substances Control Act (TSCA) Section 5(a) and Section 6 (h).....	8
2.10 Low Halogen IEC 61249-2-21 .....	8
2.11 Canadian Environmental Protection Act: Prohibition of Certain Toxic Substances Regulations and Virtual Elimination List.....	9
2.12 Packaging Regulations.....	9
2.13 Packaging Renewable/ Recyclable/ Biodegradable Criteria and Requirement.....	10
2.14 EHS and Frugal Use of Energy .....	10
<b>3 Compliance and Declaration</b> .....	11
3.1 Supplier Compliance .....	11
3.2 Supplier Self Declaration .....	11

# Foreword

Belden Company was founded by Joseph C. Belden in Chicago, in 1902 and has a heritage of innovation and high technology. Nowadays the company has worldwide presence with solutions in connectivity and signals transmissions offering solutions in cabling, connectors, switches and cyber security.

Belden started its ESG journey in 2021, we believe that as a company we have a responsibility to make a positive, meaningful impact in the industries we serve and to the communities in which we operate.

## Commitment to ESG Stewardship

With more than 120 years in operation, Belden has earned a reputation for doing business in a responsible and ethical manner. Today, as a global automation, security, and infrastructure solutions provider, we empower companies around the world to advance their impact in the world — and our commitment to delivering the right results in the right way is stronger than ever.

## Commitment to Planet

Belden is committed to source raw materials sustainably across our global supply chain and production platforms, with full transparency and in accordance with established ISO standards and all applicable environmental regulations.

We are committed to invest in continual improvement of renewable or recyclable component end of life material streams.

We are committed to design products that have minimal contaminants and that comply with all environmental laws in the markets where we sell our products.

Our R&D team seeks to identify and create singular world-wide standards for environmentally preferable materials used in the production and packaging of our products and work with our suppliers for compliance to these standards.

We would like to share Belden's enthusiasm and efforts in supply chain sustainability and encourage our suppliers to support Belden's environmental management program and ensure the compliance to this standard for the materials and products they provide to Belden.

Please visit [Sustainability \(belden.com\)](https://www.belden.com/sustainability) for more details about our strategy on ESG (Environmental, Social & Governance).

## ESG Steering Committee



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# 1 Introduction

## 1.1 Importance of Supply Chain Sustainability

Together with our business partners, we want to find answers to the global ecological and social challenges. The basis for this is an understanding of sustainability supported by all stakeholders, including Belden's suppliers. Only together can we meet the increasingly stringent requirements that are set by today's environmental challenges and our customers' expectations.

## 1.2 Purpose of this Material Standard

The goal of this standard is to guarantee compliance with current and upcoming regulations regarding ingredients in products and components as well as packaging, and to minimize the use of harmful but not (yet) banned substances. With this standard we commit our suppliers to environmental protection and resource conservation - and to passing on our requirements to their own suppliers as well.

## 1.3 Supplier Responsibilities

Our suppliers are obliged:

- To comply with the restrictions listed below for all parts, components, materials, packaging, or products delivered to Belden. These requirements apply worldwide.
- Deviations must be reported to Belden prior to delivery. Belden will then decide on a case-by-case basis whether non-compliant deliveries can be accepted.
- To constantly check whether further substance restrictions exist or are planned, or whether existing ones have changed, e.g. further substances have been added to the REACH candidate list.
- To keep their knowledge about substance restrictions up to date.
- Communicate the relevant restrictions to your own supply chain and take all necessary measures to ensure compliance, for example through regular random sample testing.

## 2 Legal regulations and Belden requirements

### 2.1 ISO 14001

Through our products, Belden is helping to create a more sustainable world. At Belden we have a culture of responsibility that encourages every employee to ask the questions that lead to more sustainable processes and practices, and help our company support a sustainable future. We encourage ISO 14001 or similar for all our suppliers. Our suppliers are an important part of this culture. Belden expects all suppliers to adhere to principles of:

- Offering a safe work environment for employees
- Protection of the environment and pollution prevention
- Committing to the continuous improvement in EHS (Environmental Health and Safety) performance

Belden expects all suppliers to adhere to legal requirements for EHS (local, state, provincial, and federal) in all jurisdictions in which they operate.

When conducting a supplier selection, in the event of equivalent suppliers, preference will be given to the supplier which is certified pursuant to ISO 14001.

### 2.2 RoHS Directive 2011/ 65/ EU

RoHS Directive 2011/ 65/ EU and delegated Regulation 2015/ 853/ EC and the corresponding national provisions (together “RoHS Directive”) prohibit the use of certain substances and define corresponding mandatory limits.

It can be accessed at: <https://eur-lex.europa.eu/>.

The statutory prohibition of DEHP, DBP, BBP and DIBP by RoHS came into effect as of 22 July 2019.

<b>Substance</b>	<b>Maximum Concentration in Homogeneous Material</b>
Lead	0.1%
Mercury	0.1%
Hexavalent Chromium	0.1%
PBB, PBDE	0.1%
Cadmium	0.01%
DEHP, BBP, DBP & DIBP	0.1%

It is to be ensured through a corresponding agreement with the supplier that in the event that the supplier wishes to invoke an exception pursuant to Annex III or IV to RoHS, the supplier notifies Belden in writing sufficiently in advance. The validity of the exceptions pursuant to Annex III is temporally limited. Suppliers (including suppliers of non-electronic and electronic components) are to be obligated to comply with the RoHS Directive in full and only to supply Belden with products which comply with the RoHS Directive. Suppliers shall inform themselves about the validity and expiry date of exceptions, as well as to initiate the suitable measures in a timely manner and to ensure that the supplier's products which the supplier delivers to Belden continuously and fully comply with the regulations of the RoHS Directive.

Changes to materials must be discussed with Belden sufficiently in advance and approved by Belden in writing.

### 2.3 REACH Regulation 1907/ 2006

Every supplier of a product (including packaging) is to be obligated to declare to Belden all Substances of Very High Concern (SVHC) mentioned in EU Regulation 1907/ 2006/ EC (“REACH Regulation”) which are present in a concentration exceeding 0.1 % (percent by weight) in its products which it supplies to Belden. Every supplier is also to be obligated to inform itself regularly about the updating of the list and only to supply Belden with products which fully comply and are consistent with the REACH Regulation.

## SVHC Authorization List (Annex XIV), SVHC Candidate List and substances restricted under REACH (Annex XVII) published by the EU:

The EU continuously adds to the candidate list!

It can be accessed at: <https://echa.europa.eu/candidatelist-table>

The list of substances requiring approval (Annex XIV) can be accessed at: <https://echa.europa.eu/authorisation-list>

Restricted substances (Annex XVII) can be accessed at: <https://echa.europa.eu/substances-restricted-under-reach>

It is to be ensured that suppliers warrant that they are familiar with, regularly check for updates regarding, and fully comply at all times with the provisions of the REACH Regulation and the list of substances requiring approval, and thus the products supplied to Belden comply in full at all times with the currently-applicable provisions of the REACH Regulation and of the list.

As a result of the judgement by the European Court of Justice (ECJ) in September 2015, information must be given about SVHC in products even if they are built into larger products, e.g. cables in machines. This applies also for packaging. REACH Article 67 and Annex XVII (previously *inter alia* EU Directive 76/ 769). Accordingly, it is to be ensured that suppliers guarantee that Belden is informed accordingly in a timely manner.

## 2.4 China RoHS SJT 11363-2006

The Act SJ/T 11363-2006 (“China RoHS Directive”) is equivalent to the RoHS Directive 2011/65/EU and prohibits the use of certain substances and defines corresponding mandatory limits.

It can be accessed at: <https://www.chinesestandard.net/PDF.aspx/SJT11363-2006>.

Suppliers (including suppliers of non-electronic and electronic components) are to be obligated to comply with the China RoHS Directive in full and only to supply Belden with products which comply with the China RoHS Directive. Suppliers shall inform themselves about the validity and any expiry dates as well as to initiate the suitable measures in a timely manner and to ensure that the supplier’s products which the supplier delivers to Belden continuously and fully comply with the regulations of the China RoHS Directive. Changes to materials must be discussed with Belden sufficiently in advance and approved by Belden in writing.

It is the responsibility of suppliers to be informed about the upcoming revisions to the China RoHS, according to the standards of GB/T26572-2011 - *Requirements of Concentration Limits for Certain Restricted Substances in Electrical and Electronic Products* and SJ/T 11364-2014 - *Marking for the Restriction of the Use of Hazardous Substances in Electrical and Electronic Product*.

## 2.5 WEEE Directive 2012/ 19/ EU

The Waste Electrical and Electronic Equipment Directive (WEEE Directive) is a European Community Directive, numbered 2012/19/EU, concerned with waste electrical and electronic equipment. The directive mandates the treatment, recovery and recycling of electric and electronic equipment. It can be accessed at: <https://eur-lex.europa.eu/>

All European countries have transposed the WEEE directive into national law. Affected manufacturers must comply with national law (see obligations mentioned below).

Affected manufacturers are obliged to label electrical (electronic) equipment since it must not be disposed of in household waste. The symbol of the crossed-out wheeled bin complemented by an identification mark serves this purpose:



Furthermore, affected manufacturers, distributors, or sellers of electrical and electronic equipment are required by EU and national law to contribute to the proper disposal and treatment of waste equipment. This obligation includes:

- Registering with the responsible national authorities ("registers") in each country where you distribute or sell equipment (see: <https://www.ewrn.org/national-registers/national-registers>)
- Filing a regular report on the amount of sold electrical and electronic equipment
- Organizing or financing the collection, treatment, recycling, and recovery of your products
- As a distributor, providing a take-back service, whereby your customers can return electric and electronic waste free of charge - according to national law
- As a manufacturer, complying with the RoHS Directive

## Substances of Very High Concern (SVHC) - SCIP Notification (ECHA)

SCIP is the database for information on **S**ubstances of **C**oncern **I**n articles as such or in complex objects (**P**roducts) established under the Waste Framework Directive (WFD).

Companies supplying articles containing substances of very high concern (SVHCs) on the Candidate List in a concentration above 0.1% weight by weight (w/w) on the EU market must submit information on these articles to ECHA, as from 5 January 2021. The SCIP database ensures that the information on articles containing Candidate List substances is available throughout the whole lifecycle of products and materials, including at the waste stage. The information in the database is then made available to waste operators and consumers.

More information on SCIP: <https://echa.europa.eu/scip>

## 2.6 California Proposition 65

The Safe Drinking Water and Toxic Enforcement Act from 1986, in its modified version also known as California Proposition 65 or CP 65. It is to be ensured that the supplier is obligated to inform Belden if a substance on the CP 65 list is contained in a product, replacement part or compound, and a product supplied to Belden or its packaging is to be labelled pursuant to the requirements in CP 65. The supplier is also to be obligated to follow the CP 65 list regularly and to inform Belden without undue delay if a substance on the CP 65 list might be contained in the products supplied.

The CP 65 list can be accessed at: <https://oehha.ca.gov/proposition-65/proposition-65-list>

In the event of information being provided by the supplier to Belden, the following details are to be supplied:

- name of the substance contained;
- CAS number;
- concentration of the ingredient [%];
- designation of the material which contains the substance declared additional information.

## 2.7 POP Regulation (EU) 2019/ 1021

(EU) Regulation 2019/1021 regulates the manufacture, putting into circulation and the use of persistent organic pollutants (POP) in compounds and products. See also IEC 62474.

It is to be ensured that Belden's suppliers warrant that all products supplied to Belden fully comply with the substance restrictions pursuant to the Pop Regulation. These requirements apply worldwide, even if no delivery is made in the EU. Deviations are to be notified to Belden before delivery and approved by Belden in writing.

## 2.8 PFAS

Per- and polyfluorinated alkyl substances (PFAS) are industrial chemicals that are used in numerous industrial processes and consumer products due to their special technical properties. The substance group comprises more than 4700 different compounds.

Europe and the United State of America regulate PFAS. Other countries plan on regulating PFAS, as well.



Europe bans and restricts certain PFAS through POP-Regulation (EU) 2019/ 1021 which is based on the Stockholm Convention. Also, certain substance groups of PFAS can be found in REACH Regulation 1907/ 2006 in Annex XVII as well as in the Candidate List.

Some states of the United States of America implemented reporting laws for intentionally added PFAS in products. Examples for these states are Maine (Public Law c. 477), California (AB 2247), Massachusetts (HB 4818) and other.

EPA provides a publicly accessible database on PFAS substances:

<https://comptox.epa.gov/dashboard/chemical-lists/pfasmaster>

OECD develops a new list of Per- and Polyfluoroalkyl Substances (PFASs) based on a comprehensive analysis of information available in the public domain and provides a portal that serves to facilitate information on PFAS:

<https://www.oecd.org/chemicalsafety/risk-management/global-database-of-per-and-polyfluoroalkyl-substances.xlsx>

<https://www.oecd.org/chemicalsafety/portal-perfluorinated-chemicals/>

It is important to note that each regulation might define PFAS differently, and the specific substances included may also vary by list. Belden encourages its suppliers to investigate all PFAS regulations applicable to the materials or products they supply Belden and prepare for a declaration of compliance in the coming year.

## 2.9 Toxic Substances Control Act (TSCA) Section 5(a) and Section 6 (h)

The Toxic Substances Control Act (TSCA) is a federal law in the United States that was enacted in 1976. The TSCA is the primary law governing the regulation of chemicals in the United States and gives the Environmental Protection Agency (EPA) the authority to regulate the manufacture, distribution, use, and disposal of chemicals.

TSCA Section 5(a) is a provision that requires chemical manufacturers and processors to notify the EPA before they intend to produce or import a new chemical substance into the United States. EPA can determine that a use of a chemical substance is a “significant new use.” Once EPA determines that a use of a chemical substance is a significant new use, TSCA Section 5(a) requires persons to submit a significant new use notice (SNUN) to EPA at least 90 days before they manufacture (including import), or process the chemical substance for that use. The notification required by SNURs, known as a Significant New Use Notice (SNUN), obligates EPA to assess risks that may be associated with the significant new use.

TSCA Section 6(h) is a provision that allows the EPA to require testing and impose restrictions on the production, use, or distribution of chemical substances that may pose a risk of injury to health or the environment. This provision applies to both new and existing chemical substances. EPA issued a ban on the manufacture, use and distribution of certain PBT (persistent, bio accumulative and toxic) substances and articles containing them on January 6, 2021. Enacted on June 22, 2016 includes a provision under TSCA Section 6(h) requiring EPA to take expedited action on specific PBT chemicals to address risk and reduce exposures to the extent practicable.

The substance list can be accessed at:

<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-R/part-751/subpart-E?toc=1>

Every supplier is to be obligated to inform itself regularly about the updating of the substance list.

Moreover, Belden’s suppliers shall warrant that all products supplied to Belden fully comply with the requirements set forth in the TSCA Regulation. Deviations are to be notified to Belden before delivery and approved by Belden in writing.

## 2.10 Low Halogen IEC 61249-2-21

International Electrochemical Commission’s (IEC), the electronics industry organization, is proposing a definition of “Low halogen” for materials used in electronic and electrical products. IEC 61249-2-21 specifies for “halogen-free” materials limits of

- 900 ppm maximum chlorine,
- 900 ppm maximum bromine and
- 1500 ppm maximum total chlorine plus bromine (irrespective of whether halogens are of organic or inorganic origin or nature).

These requirements apply worldwide, even if no delivery is made in the EU. Belden requires its suppliers to declare non halogen free components.

## 2.11 Canadian Environmental Protection Act: Prohibition of Certain Toxic Substances Regulations and Virtual Elimination List

The primary purpose of the Canadian Environmental Protection Act, 1999 (CEPA) is to contribute to sustainable development through pollution prevention. It provides the legislative basis for a range of federal environmental and health protection programs, similar to European REACH or US TSCA.

CEPA Schedule 1 substances are those that are determined to be toxic under CEPA by meeting at least one of the criteria set out in CEPA section 64 (a, b, or c).

Some of the most harmful substances on CEPA Schedule 1 are subject to the Prohibition of Certain Toxic Substances Regulations (PCTSR). This means, that articles containing these substances are prohibited from sale or import in Canada. Most substances are covered by European chemical law (REACH and RoHS). A few need to be tracked separately, since neither EU nor US law cover them:

- PFCAs C9-C20
- Tetrachlorobenzenes
- (4-Chlorophenyl)cyclopropylmethanone, O-[(4-nitrophenyl)methyl]oxime
- Hexane, 1,6-diisocyanato-, homopolymer, reaction products with alpha-fluoro-omega-2-hydroxyethyl-poly(difluoro- methylene), C16-20-branched alcohols and 1-octadecanol
- 2-propenoic acid, 2-methyl-, hexadecyl ester, polymers with 2-hydroxyethyl methacrylate, gamma-omega-perfluoro-C10-16-alkyl acrylate and stearyl methacrylate
- 2-propenoic acid, 2-methyl-, 2-methylpropyl ester, polymer with butyl 2-propenoate and 2,5 furandione, gamma-omega-perfluoro-C8-14-alkyl esters, tert-Bu benzenecarboperoxoate-initiated
- 2-propen-1-ol, reaction products with pentafluoroiodoethane tetrafluoroethylene telomer, dehydroiodinated, reaction products with epichlorohydrin and triethylenetetramine

The full substance list can be accessed at:

<https://www.canada.ca/en/environment-climate-change/services/management-toxic-substances/prohibition-regulations.html>

Section 65 of the Canadian Environmental Protection Act, 1999 (CEPA) mandates the Ministers of Environment and Climate Change and of Health to compile a list to be known as the virtual elimination list. Currently there are two substances on this list, which are covered by European REACH.

See: <https://laws-lois.justice.gc.ca/eng/regulations/SOR-2006-298/page-2.html#docCont>

It is to be ensured that Belden's suppliers warrant that all products supplied to Belden fully comply with the substance restrictions pursuant to the CEPA Regulation. Deviations are to be notified to Belden before delivery and approved by Belden in writing.

## 2.12 Packaging Regulations

The European Packaging Directive 94/62/EC and EU Decision 97/129/EC (and future upcoming packaging regulations) regulate the recycling and labeling of packaging materials. Due to the European recycling strategy, heavy metals (Pb, Cd, Hg, Cr<sup>6+</sup>) with a concentration above 0.01 % by weight are prohibited in packaging materials.

All packaging is to be marked according to packaging regulations, e.g. European Packaging Directive 94/62/EC and EU Decision 97/129/EC and future upcoming packaging regulations.

It is to be ensured that Belden's suppliers warrant that all products supplied to Belden fully comply with the substance restrictions.

## 2.13 Packaging Renewable/ Recyclable/ Biodegradable Criteria and Requirement

According to the standards for the technology of green packaging and a comprehensive study as to what materials we currently use in our packaging, the definition of renewable, recyclable or biodegradable, is provided on the table below.

Packaging Type	Renewable	Recyclable	Biodegradable
<b>Wood</b>	Yes	Yes	Yes
<b>Plywood</b>	Yes	No	Yes
<b>Cardboard</b>	Yes	Yes	Yes
<b>Plastics</b>			
01 – PET: Polyethylene terephthalate	No	Yes	No
02 – HDPE: High-density polyethylene	No	Yes	No
03 – PVC: Polyvinyl chloride	No	No	No
04 – LDPE: Low-density polyethylene	No	Yes	No
05 – PP: Polypropylene	No	Yes	No
06 – PS: Polystyrene	No	No	No
07 - Acrylonitrile-Butadiene-Styrene (ABS)	No	No	No

When Suppliers select the materials to be used in packaging, the preference should be given to renewable or easily recyclable materials and further enhance the use of biodegradable materials according to Belden's criteria and requirement. Every effort should be made to ensure single recycle stream materials are used as well; in the event that multiple materials are used, they should be easily separated for recycling purposes.

Plastics are not preferred to be used on the design of any new packaging product to Belden. However, Belden may allow such deviations under certain circumstances if the supplier is providing a recyclable solution. In such cases, the supplier shall provide Belden with appropriate data and information, discuss with Belden in advance and obtain Belden's written approval before its implementation.

## 2.14 EHS and Frugal Use of Energy

Belden prefers suppliers which do the following through implemented management systems:

- offer their employees the best protection,
- offer the best possible protection of the environment taking economic aspects into account,
- use energy frugally and thus keep the climate burdens as low as possible.

Belden's suppliers are thus to be obligated to warrant that machines and technical systems supplied to Belden are constructed in such a way that they are safe for Belden's employees and are sustainable for the environment as a result of low emissions and low energy consumption. This is to be specified in corresponding product/technical specifications.

It is to be ensured that Belden's suppliers guarantee that all statutory, environmental, and safety-related conditions in the manufacturer and customer country are fully complied with.

Moreover, it is to be ensured that Belden's suppliers are obligated to warrant that the goods supplied by them to Belden meet the requirements in all pertinent EU provisions, particularly the respectively applicable version of the Low-Voltage Directive 2006/95/EC or its successor Directive 2014/35/EU, the Ecodesign Directive 2009/125/EC, the Machinery Directive 2006/42/EC as well as Directive 2001/95/EC concerning general product safety.

We expect our suppliers to notify us of their own initiative about non-designated health-endangering materials. Therefore, it is to be ensured that suppliers are obligated accordingly.

In addition, EHS instruction no. 04.02.12.001: EHS Requirements concerning Selection and Procurement of Materials applies.

## 3 Compliance and Declaration

### 3.1 Supplier Compliance

Suppliers shall consider the use of environmentally preferred material alternatives that have been identified by Belden. These alternative materials are specified on the Belden provided drawings during the quoting process. If the cost of these environmentally preferred materials is comparable to the standard materials, then the alternative shall be considered for use.

Suppliers shall consider the impact their operations have on the environment and reduce that impact where practicable to protect the environment. Suppliers shall comply with applicable environmental laws and regulations in the countries in which they operate.

Belden may request information or access for the purpose of verifying compliance by Supplier. In the event Belden provides such a request and is not reasonably satisfied with the Supplier's response, Belden may, in its sole discretion, decline to make further purchases under any agreement between Belden and Supplier.

### 3.2 Supplier Self Declaration

Material conformity at product level might be checked up to twice a year with the suppliers. For this purpose, a template with the corresponding products is sent to the suppliers. The suppliers are obliged to fill in the template truthfully. In the case of first sampling, the requirements for material conformity are communicated accordingly. The conformity is to be confirmed with the first article inspection (FAI).