

Guide for Suppliers to the ABB List of Prohibited and Restricted Substances

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1. Disclaimer

The information contained in this Guide is of general nature and is principally intended to provide information in support of the ABB List of Prohibited and Restricted Substances, hereinafter also referred to as “ABB List”. ABB suppliers shall be responsible for consulting the ABB List when issuing an ABB purchase order. The latest version of the ABB List is available at www.abb.com – Supplying to ABB. It should be noted that this Guide is not intended to address specific circumstances of any particular individual or entity. Furthermore, liability claims cannot be derived from referencing this Guide or the ABB List. Nor do the contents of this Guide, or the ABB List, relieve parties from their obligation to comply with the laws and regulations regarding prohibited, restricted and/or hazardous materials, including any resulting additional prohibitions or application limitations.

2. Definitions

Homogenous material:

Material of uniform composition throughout or a material consisting of a combination of materials that cannot be disjointed or separated into different materials by mechanical actions (e.g. unscrewing, cutting, crushing, grinding and abrasive processes).

Materials

Substances or preparations in a finished state for use in the manufacture of products/articles.

Parts

Single components consisting of one or more homogenous material(s). Example: an electronic device (e.g. a capacitor) to be used in a control equipment.

Preparations

Mixtures or solutions composed of two or more substances. Example: paint.

Products/Articles

Materials or preparations transformed during production to take on a specific shape, surface or design, thereby enhancing their function. Example: control equipment.

Substances

Chemical elements and their compounds found in their natural state or obtained by any manufacturing process. Example: lead chromate

3. Introduction

The purpose of the supplier Guide to the ABB List, is to provide ABB suppliers insight into international regulations, including the regulation on the **Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)** and the directive on the **Restriction of the use of certain Hazardous Substances (RoHS)**, set by the European Union. Furthermore, this Guide offers support for the interpretation of the ABB List. Overall, the ABB List has been compiled in order to comply with legislation requirements, to ensure a high level of protection for human health and the environment, and to manage risks encountered by chemicals present in various products. The substances included in the ABB List have been selected based on an evaluation of their likely presence in a material or part supplied to ABB and incorporated in an ABB product. Certain circumstances may prohibit the use of a substance in specific applications. Therefore, a case by case examination is required in order to identify and declare prohibited and restricted substances to ABB. The validity date for ABB List applies to purchase orders accepted as of this date.

4. Supplier Obligations

All suppliers to ABB are required to disclose information regarding products/parts/material supplied to ABB that contain any substances included in the ABB list. This reporting obligation is also in line with the regulatory requirements set by REACH regulation EC/1907/2006 Article 33 on mandatory disclosure

Information to be reported to ABB:

1. Declaration of substances included in the ABB List
2. Product Article name and Product Article number
3. Module name (REACH, ...)
4. Substance name, CAS number, Threshold Concentration

The example below summarizes the necessary disclosure information for identified substances.

Product Name	Product Number	Module Name	Substance Name	CAS Number	Threshold	Concentration
Control cable power L=15m	3HAC2535-1 SEROP	EU REACH SVHC	Lead	7439-92-1	0,100000000	4,000000000
Control cable power L=15m	3HAC2535-1 SEROP	EU REACH SVHC	Potassium 1,1,2,2,3,3,4,4,4-nonfluorobutane-1-sulfona	29420-49-3	0,100000000	4,000000000
Control cable power L=15m	3HAC9038-2 SEROP	EU REACH SVHC	Lead	7439-92-1	0,100000000	4,000000000
Control cable power L=15m	3HAC9038-2 SEROP	EU REACH SVHC	Potassium 1,1,2,2,3,3,4,4,4-nonfluorobutane-1-sulfona	29420-49-3	0,100000000	4,000000000

5. Structure of the ABB List

Below is an overview of the structure provided in the ABB List, including detailed explanations of its content:

Substance name	Name of chemical element or compound.
CAS No	CAS Registry Numbers are unique numerical identifiers assigned by the Chemical Abstracts Service to every chemical described in the open scientific literature.
Reason for inclusion	The reason for a chemical element or compound to be on this list is its inherent properties that make it hazardous for humans or for the environment.
ABB Classification	Classification in Prohibited (P) and Restricted (R). Note that a chemical may be Restricted in certain applications and Prohibited in others.
Legislation	A reference list to relevant legislation.
Example of applications	Example of applications where a specific chemical element or compound is used.
Comments	Information about EU REACH Sunset dates and non-EU legislation thresholds and limits.

6. Restricted Substance Classification

Disclosure is required for materials or parts which contain substances reported on ABB List, classified as Prohibited “P” or Restricted “R”, and can be found in an ABB product. The definitions of prohibited and restricted substances are as follows:

P = Prohibited - substances that must not be used

R = Restricted - substances whose use should be limited within ABB

Prohibited substances must not be used in concentrations that exceed the thresholds under the law. For restricted substances above 0.1% w/w or other limits according to legislation (see column “Comments”), active work shall be performed to eliminate the substances or to find less hazardous alternatives which could be introduced as soon as it is technically and economically possible.

Depending on the application, the same substance may be classified as “P” in one circumstance, and “R” in another. This is due to the requirements and existing exceptions set in the RoHS directive. In an unclear situation a case by case assessment shall be performed in cooperation with ABB in order to fulfil legislation.

7. Legal background

7.1 REACH – registration, Evaluation, Authorization and Restriction of Chemicals

What is the purpose of REACH?

The EU regulation REACH entered into force on 1st of June 2007. The purpose of this regulation is to ensure high level protection of human health and the environment. This regulation enhances the industry’s responsibility to manage the risks from chemicals and to provide safety information on the substances present in various products. To ensure safe handling, manufacturers and importers are required to gather and disclose information regarding the properties of chemical substances.

What is the Candidate List?

The Candidate list compiles substances identified as Substances of Very High Concern (SVHC). Substances with the following hazard properties may be identified as SVHCs:

- Substances meeting the criteria for classification as carcinogenic, mutagenic or toxic for reproduction (CMR) category 1A or 1B in accordance with the CLP Regulation

- Substances which are persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) according to REACH Annex XIII.

- Substances on a case-by-case basis, that cause an equivalent level of concern as CMR or PBT/vPvB substances.

SVHC listed in Annex XIV ("Authorization list") will be prohibited after "sunset date" unless an authorization is granted. Substances in imported products are not subject to authorization. However, declaration is always required.

What to do?

For articles containing substances from the Candidate list in a concentration above 0.1 weight-%, suppliers must inform their EU customers and provide relevant safety information. The concentration of chemical elements and compounds shall be calculated for constituent articles in a product. Refer to section 4 regarding information ABB requests.

7.2 RoHS – Restriction of the use of certain Hazardous Substances

What is the purpose of RoHS?

The purpose of the EU directive RoHS is to restrict the use of hazardous substances in Electrical and Electronic Equipment (EEE) designed for use with a voltage rating not exceeding 1000 volts for alternating current and 1500 volts for direct current. The table below summarizes the substances and maximum concentration values tolerated in homogenous materials.

Substance	Maximum concentration of the substance in homogenous materials (weight-%)
Cadmium	0.01
Lead	0.1
Mercury	0.1
Hexavalent chromium	0.1
Polybrominated biphenyls (PBBs)	0.1
Polybrominated diphenylethers (PBDEs)	0.1

Four new substance restrictions will apply to industrial monitoring and control instruments from 22 July 2021:

Substance	Maximum concentration of the substance in homogenous materials (weight-%)
Bis (2-ethylhexyl) phthalate (DEHP)	0.1
Butyl benzyl phthalate (BBP)	0.1
Di-butyl phthalate (DBP)	0.1
Di-isobutyl phthalate (DIBP)	0.1

The directive applies to 11 categories of electrical and electronic equipment:

1. Large household appliances
2. Small household appliances
3. IT and telecommunications equipment
4. Consumer equipment
5. Lighting equipment



- 6. Electrical and electronic tools (with the exception of large-scale and stationary industrial tools)
- 7. Toys, leisure and sports equipment
- 8. Medical devices
- 8. In vitro medical devices
- 9. Monitoring and control instruments
- 9. Industrial monitoring and control instruments
- 10. Automatic dispensers
- 11. Other electrical and electronic equipment EEE not covered by any of the categories above

What to do?

The new RoHS is a CE mark directive, meaning that CE marking must be affixed to all finished products covered by RoHS. As a result an electrical or electronic product will not only need to comply with e.g. the low voltage directive or the electromagnetic compatibility requirements, but also with RoHS. If RoHS compliance is not assured, the application of the CE mark will violate the law.

8. Changes to the ABB List

The ABB List of Prohibited and Restricted Substances is updated twice per year when the REACH Candidate list is updated. This Guide will also be updated along with the new versions of ABB List if deemed necessary.

9. Revisions

Rev.	Page/Chapter	Description	Date/Dept./Init.
1.23	All	Reworked document based on version 1.22 published 2022	30/01/2023 Issued by ABB Sustainability affairs 9AKK 105713A6396, ver 1.23

10. Legal references

All legal references can be found in the ABB List. For most important references REACH and RoHS, see links below:

EU REACH Regulation EC/1907/2006

<https://www.reach-compliance.eu/english/legislation/docs/launchers/launch-2006-1907-EC.html>

EU RoHS Directive 2011/65/EU

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:174:0088:0110:EN:PDF>