Barco Product Environmental Requirements Guidance

Revision History

Ver.	Date	Reason for revision
00	23/10/2013	Initial release
01	05/06/2015	Updated chapter on Conflict Minerals Added chapter on the Barco Substances list
02	23/01/2018	Updated chapter on REACH (current interpretation of an article) Updated chapter on RoHS (4 extra phthalates) Updated chapter on EICC of conduct to RBA code of conduct
03	10/10/2019	Added chapter on FMD requirements Updated chapter on REACH Updated chapter on Conflict minerals (smelters)

Aim of this guidance

This guidance aims at explaining the minimum environmental requirements that Barco suppliers and OEMs/ODMs must comply with according to Barco Terms and Conditions of Purchase

This guidance shall not be interpreted as a requirements document and does not overrule any of the environmental requirements imposed.

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RBA Code of Conduct

As Barco supplier you are required to adhere to the RBA Code of Conduct.
The RBA Code of Conduct is a set of standards on social, environmental and ethical issues in the electronics industry supply chain.
The standards set out in the Code of Conduct reference international norms and standards including the Universal Declaration of Human Rights, ILO International Labor Standards, OECD Guidelines for Multinational Enterprises, ISO and SA standards and many more.

The RBA Code of Conduct is available here:
http://www.responsiblebusiness.org/standards/code-of-conduct/

Barco FMD Requirements

What is a Full Material Declaration (FMD)?

It lists all substances contained in the article along with the substance mass or concentration. The substance masses need to sum up to 100% of the article's mass.

Scope

Barco is requesting FMD's from all its suppliers for all delivered parts. Barco evaluates FMDs for all its components to guarantee compliance with worldwide regulations and to guarantee compliance with upcoming regulations.

How to establish a Full Material Declaration?

- Request material and substance information from Sub-Tier suppliers
- Explode the BOM for each part requested and include the Sub-Tier supplier BOM information build-up in the BOM so it contains only substances with their respective CAS-numbers, weight and location of the substances in the article
- Clean-up the BOM by excluding all tools, packaging, process materials and all other materials that are not present in the final delivered product
- If there are proprietary substances, include the total weight of proprietary substances (maximum 5% of the total product weight). Make sure that these proprietary substances don't contain any SVHC substances!
- Check if the sum of all the weights is equal to the total product weight
- Follow-up requests to collect updated material and substance information from Sub-Tier suppliers.

Note: Barco doesn't expect its suppliers to perform a chemical analysis test of the product. The information from sub-tier suppliers should be reliable enough to compile a Full Material Declaration.

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Barco REACH Requirements

What is REACH

REACH is a European legislation with the aim to improve human health and the environment by regulating the production and use of chemicals.

The official name of REACH is Regulation (EC) No. 1907/2006 of the European Parliament and the Council on REACH (**R**egistration, **E**valuation and **A**uthorization of **Ch**emicals). This law became effective in all European Union (EU) Countries on June 1, 2007. More REACH-like regulations are currently being adopted in other countries outside of Europe, for example in Japan, in China and Korea. Therefore, we strongly encourage our suppliers to collect information about their products' chemical composition to ensure future worldwide compliance.

Scope

The Barco REACH requirement applies to all suppliers and parts including but not limited to:

- All purchased substances, materials, components, parts, subassemblies, assemblies, etc., that are incorporated into Barco products or combined with Barco products as part of a Barco end product
- All spare parts of field replacement units.
- All Suppliers and their sub-tier Suppliers involved in providing 'parts' to Barco
- All packaging materials for parts or products, including labeling materials.

Suppliers are requested to demonstrate proof of their compliance because of the potential risk of loss of market access due to non – compliance with the REACH regulation.

REACH legal obligations

For articles (products) producers:

1. **SVHC Candidate List:** communication of the presence of substances included in the Candidate List of Substances of Very High Concern (SVHC) according to Article 33 of the REACH Regulation if:
   - The substance is included in the Candidate List, and
   - The substance is present in an article produced and/or imported above a concentration of 0.1% (w/w)

   Important notes:

   - The presence and the information on safe use are to be provided to the recipient of the article when the article is supplied for the first time after the inclusion of the substance into the Candidate list. The concentration threshold of 0.1% w/w applies to every article supplied. This means this threshold applies to each article of an object made up of more than one article, which were joined or assembled together

(=complex object). In other words, the 0.1% w/w threshold applies to every subpart of an article.
- A distributor supplying articles is also subject to the communication obligation

2. **Authorization list** (REACH Annex XIV): list of chemical substances that shall NOT be placed on the market unless specifically authorized by ECHA for the specific application.
   SVHC substances included in the Authorization List cannot be placed on the EU market after a certain sunset date. If there are no alternatives, producers have to ask ECHA for authorization of their specific application. Only authorized applications for these substances will be accepted by Barco.

3. **Restriction list** (REACH Annex XVII): Restrictions on the manufacturing, placing on the market and use of certain dangerous substances, preparations and Articles.
   This annex lists all substances and applications banned from the EU market. The supplier shall not use any of these restricted applications.

For chemicals producers:

1. Requirement to **register** chemical substances that are manufactured imported or contained in Articles (or parts) that are manufactured, or imported into the EU.

2. To **communicate** relevant safety information further down the supply chain to customers by providing the Safety Data Sheet (SDS).

Communication (for suppliers of products)

- All suppliers of Barco are required to actively communicate to Barco if any of their articles/parts contain an SVHC.
- If this is the case, the supplier should inform Barco about: the name of the substance, the CAS number, its concentration weight/weight in the article and the location of the substance in the article.
- The supplier is responsible for an ongoing REACH compliance program which includes monitoring for periodic additions to the SVHC list and to the Authorization list.
- The supplier should have a process for collecting data about the presence of SVHC which includes data from sub-tier suppliers.
- The supplier should keep this information collected in the supply chain for 10 years after the manufacturing of the part
- The supplier should be aware that it will be audited by Barco regarding its REACH performance and reporting.
- The supplier is responsible for incorporating the data obtained from sub-tier suppliers, for calculating the presence of SVHC in order to get the correct concentration weight/weight.
- Evidence obtained by sub-tier suppliers should be also available upon request of Barco.

Communication (for suppliers of chemicals)

- All suppliers of chemical agents are required to actively provide the SDS to Barco. The SDS should be not older than 3 years and contain all chapters and information as required by the REACH regulation.

Monitoring and self-auditing for REACH conformance

In case of changes to the part requested by Barco or by the supplier:

- The supplier is responsible for regularly verifying the conformance of its parts to REACH including in case of:
  - New part
  - Material change in existing part
  - Any changes by sub-tier suppliers
  - Updates of Barco environmental requirements

The supplier is also responsible for continuously monitoring the REACH regulation and its updates regarding the Candidate list of SVHCs and the Authorization List. Significant changes shall be communicated back to Barco.

Information suppliers need to provide to Barco

In order to ensure compliance with the Barco REACH requirements, suppliers must provide the following documentation:

- Full Material Declaration *(preferred option)*

or

- REACH Declaration or Certificate: If a full material declaration is impossible to provide in the short term. The certificate must include the name of any SVHCs contained in the supplied product according to the latest SVHC list.

If suppliers only provide a REACH Declaration to Barco, they are expected to renew the REACH certificate each time the SVHC list is updated (ca. every 6 months). Therefore Barco encourages its suppliers to provide Full Material Declarations.

All documentation will be requested by and must be provided to Greensoft Technology. Barco is collaborating with Greensoft Technology since 2009 in collecting data for environmental compliance. As a supplier of Barco you will receive an email from Greensoft in which you will be asked to provide the documentation requested for compliance. Barco expects the supplier to provide the data directly and in a reasonable timeframe to Greensoft Technology.
http://www.greensofttech.com/

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How to compile your compliance documentation

Many suppliers supply a very large number of products and make very complex products. Therefore it can be a challenge to find out in which products the SVHC are contained since the number of SVHCs is also large and tends to change over time.

First of all, to issue your compliance documentation it is not required to perform a chemical analysis of the product through a testing laboratory. It is considered sufficient to collect all information from your sub-tier suppliers and to aggregate this information together.

To make it easier, the supplier can use a "probability based approach" to prioritize the work. The idea is to first collect information for those articles which are likely to contain SVHC. One example is plasticizers: many SVHCs are plasticizers and chemicals used in the production of plastic parts and electronic components. Therefore, if a part of your product is made of plastic, PVC or other similar materials, you can initially focus on these suppliers asking the information about their raw materials.
We also advise our suppliers to only focus on SVHC's which are most likely to be present in electronic equipment. Some SVHC's may be used during the manufacturing process, but are not present in the finished product because they are evaporated, they reacted into other products or they decomposed during the manufacturing or application process.
Below link indicates for each SVHC substance where it is used:
https://echa.europa.eu/information-on-chemicals/candidate-list-substances-in-articles-table

In annex II is an overview of substances likely to be present in electronic products like in the Barco portfolio.

General instructions

REACH Declaration

How to provide a REACH Declaration?

- Request information on SVHC substances from Sub-Tier suppliers
- Collect all the information and explore if any of the parts of the product contains SVHC substances
- If none of the parts of your product contains any SHVC substance, you can provide Barco a REACH Declaration stating that the product does not contain any SVHC substance.
- If any of the parts contain one or more SVHC substances, include their name, CAS-number, the article (or subpart) where they are present and their concentration in the article in the REACH declaration.
- Follow-up regulations and request SVHC information to your Sub-Tier suppliers again when the SVHC list is updated.

Instructions for specific product categories

Printed Circuit Board Assemblies

- An investigation is requested for the assembly process only, which means materials and substances used during the assembly process (e.g. solder, solder paste) and any new parts which are added to the PCBA by the supplier. No need to provide information about the parts (electronic parts, PCB's, etc.) that are specified by Barco since Barco requests information for these parts directly to the suppliers of these parts.
- Please provide us also information (PCB type and supplier) of the printed circuit boards you are using for the different PCB assemblies. This information will be requested to you by your Barco contact on a regular basis.
- If the PCBA is a COTS (commercial off the shelf) product, then the supplier needs to ensure the complete PCBA complies with all the substances-related regulations: RoHS, REACH, Conflict Minerals, Batteries Directive.

Printed Circuit Boards

- A full material declaration of the printed circuit board needs to be provided together with compliance certificates. This information will be requested to you with the help of the EMS (Electronics Manufacturer Services) using the PCB.

Metal Parts

- Check for metal parts made of Brass with Lead Content >0.1% – CuZn39Pb3, CuZn39Pb2, CuZn36Pb2Sn1, CuZn43Pb2Al etc. Check for metal parts made of Steel which can contain Lead>0.1% - AISI 12L14, 11SMnPb30 etc. Check for metal parts made of Aluminum which can contain Lead>0.1% - AlSi9Cu3(Fe), AlSi12Cu1(Fe), AlSi10Mg(Fe) etc. All metal parts not made of any Lead containing alloys are unlikely to contain SVHC.

Plastic Parts

- Ask information to your supplier of raw material. Plastic typically contains plasticizers, flame retardants, etc. which are likely to be SVHC substances (Annex II). Especially PVC is likely to contain SVHC substances.

Painted/treated/coated parts

- If the part is painted and/or treated, ask the supplier of the treatment and/or paint for information on SVHC substances. Information on the chemicals present in the treatments and paints can be found in the Safety Data Sheet (SDS). Don't include substances that evaporate or react away during the application process since they are not present in the final product.

Cables

- Connectors can contain cadmium and other SVHC substances
- Wires and sleeves that contain PVC are likely to contain SVHC substances

Packaging (for packaging suppliers only or in case Barco re-uses the supplier packaging)

- Cardboard and paper are unlikely to contain SVHC substances

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- Plastic bags, metal pins, other materials must be investigated for SVHC-substances
- The labels and inks that are used on the packaging are also critical for REACH

Resources

Substances of Very High Concern
http://echa.europa.eu/candidate-list-table
REACH Authorization List
https://echa.europa.eu/authorisation-list
ECHA website
http://echa.europa.eu
Guidance for Suppliers of Articles
https://echa.europa.eu/documents/10162/23036412/articles_en.pdf

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Barco RoHS Requirements

What is RoHS

The RoHS Directive 2011/65/EU on the "restriction of the use of certain hazardous substances in electrical and electronic equipment" requires certain heavy metals, flame retardants and phthalates substituted by safer alternatives.
RoHS-like regulations are now enforced in many countries outside of Europe. Most of these regulations are aligned with the European Directive, which means that if your product is compliant with these substance restrictions it will comply also worldwide.

Scope

The RoHS requirement applies to the homogeneous material of the product. Therefore if your product is an assembly of different materials, the 0.1 % threshold applies to the single materials.

- All purchased substances, materials, components, parts, subassemblies, assemblies, etc., that are incorporated into Barco products or combined with Barco products as part of a Barco end product
- All spare parts of field replacement units.
- All Suppliers and their sub-tier Suppliers involved in providing 'parts' to Barco

The RoHS substances to be restricted:

Substance	Threshold mass % or weight %, measured at the homogeneous material level
Cadmium (Cd) / Cadmium compounds	0.01%
Lead (Pb) / Lead compounds	0.1%
Mercury (Hg) / Mercury compounds	0.1%
Hexavalent Chromium (Cr^{+6}) / Hexavalent Chromium compounds	0.1%
Polybrominated Biphenyl (PBB)	0.1%
Polybrominated Diphenyl Ethers (PBDE)	0.1%
Bis(2-Ethylhexyl) phthalate (DEHP)	0.1%
Benzyl butyl phthalate (BBP)	0.1%
Dibutyl phthalate (DBP)	0.1%
Diisobutyl phthalate (DIBP)	0.1%

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Non-compliance with RoHS requirements

Parts supplied to Barco which contain these substances in their homogeneous material level beyond the limits defined above, will be considered as non-compliant.
An assembly of parts, where one or more parts contain restricted substances in their homogeneous material level beyond the limits defined above, is considered as non-compliant.

Exemptions

There are a number of exempted applications which are allowed by the RoHS Directive. These exemptions are listed in the Appendix of the RoHS Directive. Please be aware that all exemptions have an expiry date.

CE mark

RoHS compliance is under the CE mark, meaning suppliers of electronic products must ensure their CE declaration of conformity includes a reference to the RoHS Directive.
If the product is not compliant with the RoHS restrictions, it shall not bear the CE mark and should not be placed on the European market.

Presumption of conformity

The standard EN50581 establishes the criteria of presumption of conformity with the RoHS Directive by describing what suppliers should provide in their technical documentation for the assessment of electronic equipment with respect to the restriction of hazardous substances.
Barco requires its suppliers and OEM to comply with this standard by:

- Establishing a compliance program which involves sub-tier suppliers
- Collecting RoHS data in the supply chain
- Establishing contractual agreements with sub-tier suppliers that ensure compliance
- Auditing and monitoring the supply chain for compliance
- Act in a due diligence way in case of uncertainties

Monitoring and self-auditing for RoHS conformance

In case of changes to the part requested by Barco or by the supplier:

- The supplier is responsible for regularly verifying the conformance of its parts to RoHS including in case of:
    - New part
    - Material change in existing part
    - Any changes by sub-tier suppliers
    - Updates of Barco environmental requirements

The supplier is responsible for keeping records of compliance for at least 10 years from the date of manufacturing and for keeping ongoing process and production controls to ensure conformance with RoHS.

Information suppliers need to provide to Barco

In order to ensure compliance with the Barco RoHS requirements, suppliers and OEMs must provide the following documentation:

- RoHS certificate of compliance

or

- Test report: provided by a laboratory accredited for RoHS testing according IEC 62321

All documentation will be requested and must be provided to Greensoft Technology.
Barco is working with Greensoft Technology since 2009 in collecting data for environmental compliance. As a supplier of Barco you will receive an email from Greensoft where you will be asked to provide the documentation requested for compliance. http://www.greensofttech.com/

How to compile your compliance documentation

Test reports should normally be provided by your raw material suppliers. In case you do not have this documentation, please contact your sub-tier suppliers in order to ask for RoHS information. Since RoHS is becoming a worldwide requirement, suppliers are used to share information on this topic.

General instructions

If the product consists of more than 1 part:

- Ask RoHS information for all the parts of the product to your sub-tier suppliers
- If every part of the product is RoHS-compliant, then your product is RoHS-compliant. Otherwise the product is non-RoHS-compliant.

If the product consists of only 1 part:

- Determine the composition of the part including the treatments and paints to check if it contains any RoHS-substances.
- By calculating the concentration of eventual RoHS-substances, you can check whether the part is RoHS-compliant or not

Keep in mind that RoHS-regulation includes exemptions, but that they all have an expiry date. Please provide a RoHS certificate of compliance to Barco including the applicable exemptions if the product is RoHS compliant.

Instructions for specific product categories

Printed Circuit Board Assemblies

- For PCBA's designed by Barco, an investigation is requested for the assembly process only, which means materials and substances used during the assembly process (e.g. solder, solder paste) and any new parts which are added to the PCBA by the supplier.

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No need to provide information about the parts (electronic parts, PCB's, etc.) that are specified by Barco since Barco requests information for these parts directly to the suppliers of these parts.

- Focus especially on the following eventual critical components:
  - Solder, soldering paste (Pb)
  - Contact surface (Pb)

Printed Circuit Boards

- Focus on the following critical components:
  - Finish (e.g. SnPb)
- Composition of the board

Metal Parts

- Focus especially on the following eventual critical components:
  - alloy (Pb)
  - surface treatment, e.g. corrosion protection (Cr^{6+})

Plastic Parts

- Focus especially on the following eventual critical components:
  - Flame-protected plastics (PBB and/or PBDE)
  - Plasticizers in soft plastics (phthalates)

Optical components

- Focus especially on the following eventual critical components:
  - Glass and lenses

Cables

- Focus especially on the following eventual critical components:
  - Plug (Pb in soldering and contact surface)
  - Connectors (Pb in plating)
  - Cable insulation (Cd in pigments, PVC stabilizers/phthalates in plastics)

Power Supply

- CdO in electrical contacts
- Flame Retardants in plastic parts, phthalates in PVC

The four phthalates (DEHP, DBP, BBP and DIBP) which are added to RoHS by Directive 2015/863/EU are likely to be present in:

- Cables and wires (especially PVC based)
  - In general may contain DEHP, DBP, BBP and DIBP in insulation
- Adhesives and sealants
  - In general may contain phthalates (especially DEHP and DBP)
  - Sealants based on polysulfide, polyurethane foam or acrylic (especially BBP)
  - Adhesives based on polyvinyl acetate or polyacrylics (especially BBP)
- Flexible lacquers and paints (e.g. waterproof paints)
  - In general may contain phthalates (especially DEHP and DBP)

    - Paints based on polyurethane or polyacrylics (especially BBP)
- Printing inks
    - In general may contain phthalates (especially DEHP and DBP)
    - Inks based on acrylics, nitrocellulose or vinyl resins (especially BBP)

Resources

RoHS Directive
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:174:0088:0110:en:PDF

Barco Conflict Minerals Requirements

The Dodd-Frank Act

Metals like **tin, tungsten, gold and tantalum** are very common in electronics. However, a considerable amount of those minerals originate from conflict areas, where mining activities finance regional conflicts. One of these areas is the **Democratic Republic of Congo (DRC)** and its adjoining countries. The metals originating from these countries are called 'conflict minerals'.
On 22 August 2012 a U.S. legislation (Dodd-Frank Act – section 1502) was issued.
Issuers, including electronic companies need to check if they use **conflict minerals** in their products and whether or not the minerals originate from the covered countries. If an issuer knows or believes that there are conflict minerals from the covered countries, due diligence needs to be performed to determine whether the issuer's minerals are 'DRC conflict free' or not, in other words, whether they directly or indirectly financed or benefited armed groups in the covered countries.

Supplier obligations

As a supplier of Barco, you are required to collect information about the use of "conflict minerals" in your supply chain and to report this information back to Barco.
This data collection is done by using the latest Conflict Minerals Reporting Template (CMRT) elaborated by the Responsible Minerals Initiative (RMI).
RMI was founded by members of the Electronic Industry Citizenship Coalition (EICC) and the Global e-Sustainability Initiative (GeSI) and is a working group which aims at enabling companies around the world to source conflict-free minerals and to implement conflict free and due diligence programs within their supply chain.

Information suppliers need to provide to Barco

Barco has established a conflict-free program which requires you to:

- Fill in the information requested in the latest Conflict Minerals Reporting Template (CMRT)
- Ensuring you do not knowingly source products or materials containing conflict minerals. We recognize that tracing conflict minerals information is a challenging task and we understand that our suppliers can have difficulties in tracing back the smelters in the supply chain, therefore we encourage you to ask the same request to your sub-tier suppliers and we are available for all the support you might need in this exercise.

All documentation will be requested and must be provided to Greensoft Technology.
Barco is working with Greensoft Technology since 2009 in collecting data for environmental compliance. As a supplier of Barco you will receive an email from Greensoft where you will be asked to provide the documentation requested for compliance. http://www.greensofttech.com/

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How to compile your compliance documentation

- Determine which of your products supplied to Barco contain tin, tungsten, tantalum and/or gold.
- Identify all the smelters in your supply chain that supply the abovementioned metals. If you don't source directly from smelters, please pass on this request to your Sub-Tier suppliers (and they may have to pass it on to their suppliers) and ask them to inform you about the smelters in your supply chain.
- Complete the latest CMRT form in a correct way
    - Answer all questions in the 'Declaration' tab
    - Complete the 'Smelter list' correctly
        - Only include identified smelters from the smelters list http://www.responsiblemineralsinitiative.org/responsible-minerals-assurance-process/exports/cmrt-export/
        - Remove smelters that were removed from the smelters list because they were identified as not being real or active smelters. Revision history of the standard smelter list is available at http://www.responsiblemineralsinitiative.org/conflict-minerals-reporting-template/training/
        - Due to Non-Governmental Organizations, location in the covered countries and customer concerns as well as trade embargoes, Barco doesn't accept the following smelters identified at risk in the supply chain:
            - Kaloti Precious Metals - United Arab Emirates – CID002563
            - Tony Goetz NV - Belgium – CID002587
            - African Gold Refinery - Uganda – CID003185
            - Sudan Gold Refinery - Sudan – CID002567
            - Universal Precious Metals Refining Zambia- Zambia - CID002854
            - Fidelity Printers and Refiners Ltd. – Zimbabwe – CID002515
            - JSC Ekaterinburg Non-Ferrous Metal Processing Plant – Russian Federation – CID000927

Resources

Barco position on conflict minerals
http://www.barco.com/en/aboutbarco/Corporate%20Sustainability/Compliance/Conflict%20Minerals%20Rule
CMRT template
http://www.responsiblemineralsinitiative.org/conflict-minerals-reporting-template/
RMI Practical guidance
http://www.responsiblemineralsinitiative.org/media/docs/CFSI_DD_ReasonablePracticesforDownstreamCcompanies_Aug2013.pdf

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Barco substances list

Substances list

The Barco substances list contains minimum requirements related to international regulations and to Barco's own requirements in order to fulfill requirements of our own customers and to anticipate future substance restrictions. All Barco suppliers are required to ensure the compliance of their products with this list.

Scope

The Barco substances list specifies the substance requirements for all Barco products, including subassemblies, parts, materials, components, batteries and packaging that are incorporated into Barco products, as well as some manufacturing processes.

Obligations for suppliers

The Barco substances list contains two types of substances:

- Restricted substances: cannot be present in the product or its manufacturing above a certain threshold and in specific applications.
- Declarable substances: they can be present in the product but they need to be declared to Barco if they are above a specific threshold concentration.

The Barco substances list is accessible on the Barco website: http://www.barco.com/en/aboutbarco/Corporate%20Sustainability/~/media/843E0C7AEE9E4B68935CFEF976602BDE.ashx

Information suppliers need to provide to Barco

Suppliers are requested to respond to questions regarding the presence and the concentration of any substances listed in the Barco substances list.

All documentation will be requested and must be provided to Greensoft Technology.
Barco is working with Greensoft Technology since 2009 in collecting data for environmental compliance. As a supplier of Barco you will receive an email from Greensoft where you will be asked to provide the documentation requested for compliance. http://www.greensofttech.com/

More and more regulations require Barco to share information with its customers about the materials contained in its products, their location and their concentration. In order to report compliance with regulations and to demonstrate due diligence, Barco relies on information

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provided by its suppliers and expects its suppliers to collect information from their suppliers accordingly.

How to compile your compliance documentation

Determine which substances of the list are present in the parts you deliver to Barco. To collect this information, as a supplier of Barco you are required to request the same information from your sub-tier suppliers and consult the Safety Data Sheets (SDS) of all the products used.

In annex II is an overview of substances likely to be present in electronic products like in the Barco portfolio.

Resources

Barco substances list
http://www.barco.com/en/aboutbarco/Corporate%20Sustainability/~/media/843E0C7AEE9E4B68935CFEF976602BDE.ashx

Barco requirements for Batteries

Directive 2006/66/EC

The Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators aims at minimizing the negative impacts of batteries and accumulators on the environment and also harmonizing requirements for the smooth functioning of the internal market. To achieve these objectives, the Directive introduces measures to prohibit the marketing of some batteries containing hazardous substances. It contains measures for establishing schemes aiming at high level of collection and recycling of batteries with quantified collection and recycling targets. The Directive sets out minimum rules for producer responsibility and provisions with regard to labeling of batteries and their removability from equipment.

Scope

- All suppliers of batteries and button cells
- All suppliers of products containing batteries and button cells

Obligations for suppliers

Substance Restrictions

All batteries sold to Barco or contained in equipment sold to Barco must comply with the following substance restrictions:

Battery Content	Portable Batteries				Industrial Batteries	
% by weight	Rechargeable*	Button cell	Lithium ion	Non-recharge**	Lead-acid	Ni-Cd
Hg Content >0.0005	Prohibited	Allowed up to 2%	Prohibited	Prohibited	Prohibited	Prohibited
Cd Content >0.002	Article 4.3 Exemption***	Article 4.3 Exemption***	Article 4.3 Exemption***	Article 4.3 Exemption***	Allowed	Allowed

* Rechargeable batteries (e.g., nickel-cadmium, nickel metal hydride, lithium ion, and lead-acid batteries)
** Non-rechargeable batteries (e.g., zinc carbon and alkaline manganese)
***Cadmium containing batteries in medical equipment are excluded from prohibition in accordance with 2006/66/EC Article 4.

Labeling of batteries

All batteries sold to Barco or contained in equipment sold to Barco must comply with the following labeling requirements:

Hg, Cd, Pb
Capacity

Batteries and button cells containing more than 0.0005% mercury, more than 0.002% cadmium or more than 0.004% lead shall be marked with the chemical symbol for the metal concerned: Hg, Cd, or Pb.

Design requirements

All suppliers which provide to Barco equipment containing batteries shall design this equipment in such a way that batteries can be readily removed and shall provide instructions on how to safely remove the battery.

Information requirements

If the product contains a battery, you need to provide to GreenSoft Technology the following information:

- Number of batteries in the product
- Type of batteries

Information suppliers need to provide to Barco

To be able to report to the concerned authorities, Barco needs information on the batteries included in a product. Therefore as a supplier you are required to provide

- Number of batteries in the product
- Specifications of the batteries (type, weight, capacity, etc.)

All documentation will be requested and must be provided to Greensoft Technology.
Barco is working with Greensoft Technology since 2009 in collecting data for environmental compliance. As a supplier of Barco you will receive an email from Greensoft where you will be asked to provide the documentation requested for compliance. http://www.greensofttech.com/

How to compile your compliance documentation

- Determine which and how many batteries are in the delivered part
- Collect all requested information of each battery type. If you don't have this information, please ask your Sub-Tier suppliers.

Resources

Battery Directive
http://ec.europa.eu/environment/waste/batteries/

Barco Requirements for Packaging

All suppliers of packaging material should comply with the following regulations:

- RoHS restrictions
- REACH obligations

RoHS requirements

Although packaging material is not under the scope of the RoHS Directive, the EU Packaging Directive 94/62/EG sets material requirements similar to RoHS.
Therefore, suppliers must supply packaging free from the following RoHS substances:

1. Lead
2. Mercury
3. Cadmium
4. Hexavalent chromium (Chromium VI or Cr6+)
5. Polybrominated biphenyls (PBB)
6. Polybrominated diphenyl ether (PBDE)

REACH Requirements

Packaging is under the scope of the REACH Regulation and it is considered as an "article" (or part).
All packaging materials supplied to Barco must comply with the Barco REACH requirements (present in this document).

Steps to ensure compliance of your packaging:

1. Identify the packaging materials you sell to Barco
2. Check if any of these materials use inks, coatings or adhesives (materials which are at risk of containing SVHCs)
3. Check if sub-tier suppliers have information about these risky parts and about the substances used.
4. Ask to sub-tier suppliers: name of chemical, quantity used, check if they are SVHC

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Barco Requirements for OEMs/ODMs

Original Equipment Manufacturers (OEMs) who supply products to Barco, need to comply with all the requirements which are applicable to suppliers. However, other requirements might apply depending on whether the OEM is also responsible for the product label and product documentation.

Important: for the requirements, please refer to your products specifications document provided to you by your Barco contact. Please use this guidance only to better understand the actions you need to take should you have these requirements into your product specifications. This guidance acts complementary to the specifications documents you received from your Barco contact.

Requirements for product design, labeling and documentation

As an OEM manufacturer, please be aware that environmental requirements can have an impact on the product design (energy consumption, recyclability, material choice etc.), as well as on the product label (certain symbols) and product documentation (environmental statements, WEEE recycling passport, etc.). Always verify the above requirements with your Barco contact.

Barco weight Requirements

Information suppliers need to provide to Barco

Barco needs the exact net weight for every supplied part. If the supplier doesn't have the weight of the part in a database, Barco requires the supplier to weigh the part with an accurate balance. The packaging of the part has to be excluded from the weight since this packaging does not end up in the final product.

How to provide the weight?

The preferred unit of measure for weights is grams (g). Please convert other units of measure into grams. For cables and wires only, the preferred unit of measure is grams per meter (g/m).

All documentation will be requested and must be provided to Greensoft Technology.
Barco is working with Greensoft Technology since 2009 in collecting data for environmental compliance. As a supplier of Barco you will receive an email from Greensoft where you will be asked to provide the documentation requested for compliance including the weight.

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Summary

As supplier of Barco you must comply with worldwide environmental regulations applicable to products. Therefore as supplier of Barco you need to make sure you:

- Sign the Terms and Conditions of Purchase
- Sign the RBA Code of Conduct
- Provide on request proof of compliance with the aforementioned requirements

Contacts

Should you have any question about environmental compliance, please do not hesitate to contact our Environmental Compliance Office at green.compliance@barco.com

Annex I - Glossary

BOM	Bill of Material
CAS-number	Unique numerical identifiers assigned to every chemical by the Chemical Abstracts Service
CE-marking	A mandatory conformity marking for certain products sold within the European Economic Area (EEA) since 1993
CMRT	Conflict Minerals Reporting Template
DRC	Democratic Republic of the Congo
ECHA	European Chemicals Agency
EMS	Electronics Manufacturing Services
EU	European Union
FMD	Full Material Declaration/Disclosure
GeSI	Global e-Sustainability Initiative
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization for air shipment
IMO	International Maritime Organization for ocean shipment
OEM	Original equipment manufacturer
PBB	Polybrominated biphenyl
PBDE	Polybrominated diphenyl ether
PCB	Printed Circuit Board
PCBA	Printed Circuit Board Assembly
PVC	Polyvinyl chloride
RBA	Responsible Business Alliance

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REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RMI	Responsible Minerals Initiative
RoHS	Restriction of Hazardous Substances
SDS	Safety Data Sheet
SVHC	Substances of Very High Concern
WEEE	Waste Electrical and Electronic Equipment

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Annex II – List of hazardous substances likely to be found in the Barco portfolio

Substance	CAS-number	Location
PVC	9002-86-2	In cable insulation and jacket
Antimony Trioxide	1309-64-4	In cable insulation and jacket, connector housing, encapsulation of electronic parts
2-(2H-Benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	UV protection in glass, plastics, rubber and polyurethane
1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	in Li-ion Batteries
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	In cable insulation and jacket
Brominated Flame Retardants (other than PBBs or PBDEs)	-	Plastic parts in fans and power supplies, connector housing, electronic parts, shrink sleeves etc.
BFRs (other than PBBs or PBDEs) in printed wiring board laminates • **TBBPA** • **Resins based on Bisphenol A**	79-94-7	Printed wiring board laminates
Cadmium Oxide	1306-19-0	In metal alloys (mainly silver cadmium oxide) in electrical contacts in power supplies; in relays and switches
Aluminosilicate Refractory Ceramic Fibres (RCF)	-	Used in lamps