



UNIFE FACT SHEET: ROHS LEGISLATION

Prepared by: S. Mock, Siemens Mobility GmbH, Member UNIFE CR TG

Date: 24/01/2022

Checked by: Members of UNIFE CR TG

Date: 24/01/2022

CONTENT:

This UNIFE fact sheet sets out to what extent products from its member companies come within the scope of the European Directive "Restriction of the use of certain Hazardous Substances in electrical and electronic equipment" (2011/65/EC, "RoHS"). The objectives of this Directive are to preserve, protect and improve the quality of the environment and to control the composition of electrical and electronic equipment (EEE).

The UNIFE understanding is that:

- EEE or EEE in items that are specifically designed for rolling stock or rail infrastructure or to be a part of a large-scale fixed installation or a large-scale stationary industrial tool, does not fall into the scope of the RoHS directive.
- EEE that is used for the repair, the reuse, the updating of functionalities or the upgrading of capacities of rolling stock or rail infrastructure or a part of a large-scale fixed installation or a large-scale stationary industrial tool, especially systems put on the market before July 2011 do not fall into the scope of the RoHS directive.
- EEE for test and service that is specially designed and necessary for rail systems and is an integral part of rolling stock or rail infrastructure or a large-scale stationary industrial tool or a large-scale fixed installation does not fall into the scope of the RoHS directive.
- EEE for test and service that is specially designed and necessary for rail systems but is not integrated to rolling stock or rail infrastructure is within the scope of the RoHS directive

UNIFE member companies request the suppliers of EEE, besides maintaining safety and quality standards, also fulfil the legal obligations in regards of supplied EEE.

Information about the Directive

In 2015, The European Commission has amended the delegated Directive 2015/863/EC which entered into force on 4th June 2015 and has updated the RoHS Directive 2011/65/EC. The major changes are:

- Update of appendix II with the substances Di(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)

RoHS (2011/65/EU) restricts the use of Pb, Cd, Hg, CrVI, PBB, PBDE in the homogeneous material of electrical and electronic equipment (EEE) put on the market after 1st July 2006 and respectively after 22 July 2019 for EEE of the category 11, no matter when it was manufactured.

The delegated Directive 2015/863/EC restricts additionally the use of DEHP, BBP, DBP, DIBP in the homogeneous material of electrical and electronic equipment (EEE) put on the market after 22 July 2019.

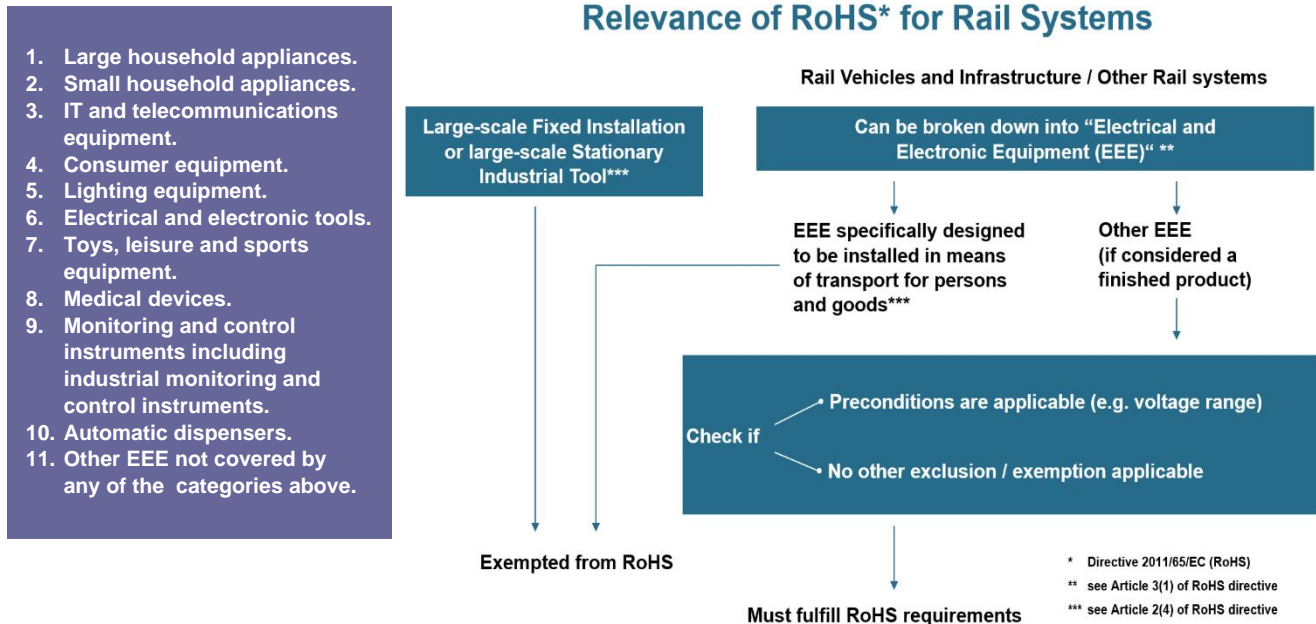
The restriction of DEHP, BBP, DBP and DIBP shall not apply to cables or spare parts for the repair, the reuse, the updating of functionalities or upgrading of capacity of EEE placed on the market before 22 July 2019.

The scope of the EEE covers voltages below 1000 Volt AC and below 1500 Volt DC and falls into one of the categories listed on the left hand side if not an explicit exclusion or exemption exists.

Common implementation elements are that

- producers mark their EEE in the country where it is put on the market allowing its identification
- provide an EU declaration of conformity and
- affix the CE-marking visibly, legibly and indelibly to the finished EEE or to its data plate.

Relevance of RoHS* for Rail Systems



Relevance of RoHS for Rail Systems

The majority of equipment for the Rail Industry is not part of the scope of RoHS as it falls into one (or more) of the following exclusions as EEE specifically designed or for:

- Means of Transport for Persons and Goods,
- Large Scale Fixed Installations and
- Large Scale Stationary Industrial Tools, and
- Cannot be easily removed by a non-expert.

This means that the relevance of RoHS for rolling stock or rail infrastructure is limited to a few products that: belong to one of the 11 RoHS categories, are not excluded (see list above) and which can be operating independently from rolling stock or the infrastructure. Examples of equipment used in rail applications that is considered in the scope of RoHS are typically portable items not specifically designed for rail applications, like:

- Laptop computers
- Computer screens
- Keyboards
- Mobile phones
- Handheld equipment such as installation, test & maintenance tools
- Some of kitchen equipment in bistro wagons

Exemptions

Even when equipment falls within the scope of the RoHS Directive, there are a number of exemptions that must be carefully checked. Only when a component belongs to one of the product categories that fall under RoHS and none of the existing exemptions applies must the component completely fulfil all RoHS requirements.



Industry Commitment

UNIFE members have gone beyond legal obligations and developed a hazardous substances limitation strategy that already covered the hazardous substances as controlled by the RoHS directive before RoHS got into force. These are voluntary limitation actions and the corresponding strategies are harmonized in the rail sector by UNIFE.

As far as lead in soldering is concerned, the transition to lead-free soldering is complex and many different ways exist to achieve the technology shift. In safety critical applications, UNIFE member companies will introduce new technologies with care and taking into account the high reliability and safety requirements.

Definitions (reference to the

- "Electrical and Electronic Equipment" means equipment which is dependent on electric currents or electromagnetic fields in order to work properly and equipment for the generation, transfer and measurement of such currents and fields and designed for use with a voltage rating not exceeding 1000 volts for alternating current and 1500 volts for direct current.
- "Homogeneous Material" means either one material of uniform composition throughout or a material, consisting of a combination of materials, that cannot be mechanically disjointed into different materials, meaning that the materials cannot be separated by mechanical actions such as unscrewing, cutting, crushing, grinding and abrasive processes.
- "Large-scale Stationary Industrial Tools" means a large size assembly of machines, equipment, and/or components, functioning together for a specific application, permanently installed and de-installed by professionals at a given place, and used and maintained by professionals in an industrial manufacturing facility or research and development facility.
- "Large-scale Fixed Installation" means a large size combination of several types of apparatus and, where applicable, other devices, which are assembled, installed by professionals and intended to be used permanently in a pre-defined and dedicated location, and to be de-installed by professionals.