

European Directive 2002/95/EC
Restrictions on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS)

Overview

RoHS, effective January 2003, bans the use of six substances in electrical and electronic equipment (EEE). After July 1, 2006, new EEE put on the market may not contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE). Because some level of the banned substances may be acceptable, the RoHS Directive has specified maximum concentration limits for the six substances by weight in “homogeneous materials” as follows:

- Lead- 0.1%
- Mercury – 0.1%
- Hexavalent chromium - 0.1%
- Polybrominated biphenyls (PBB) – 0.1%
- Polybrominated diphenyl ethers (PBDE) – 0.1%
- Cadmium – 0.01%

“Homogeneous materials” is defined as material that cannot be mechanically separated into different materials. Mechanically separated refers to separation of the material into other materials by a mechanical means such as cutting, unscrewing, grinding, or disassembly. For example for a wire or cable, the plastic housing would be one homogenous material and the metal alloy wire, another.

The RoHS Directive applies to equipment depended on electrical currents or electromagnetic fields in 8 categories as follows:

- Large Household Appliances
- Small Household Appliances
- IT & Telecommunication Equipment
- Consumer Equipment
- Lighting Equipment
- Electrical and Electronic Tools
- Toys, Leisure & Sports Equipment
- Automatic Dispensers

The RoHS Directive does not apply to medical devices, monitoring and control instruments, electric light bulbs and luminaires in households. It does not apply to spare parts for the repair of equipment and the re-use of EEE put on the market before July 1, 2006.

There are a number of exemptions of specific applications RoHS restricted substances that are listed in Annex 1 of the Directive.