

# EU RoHS

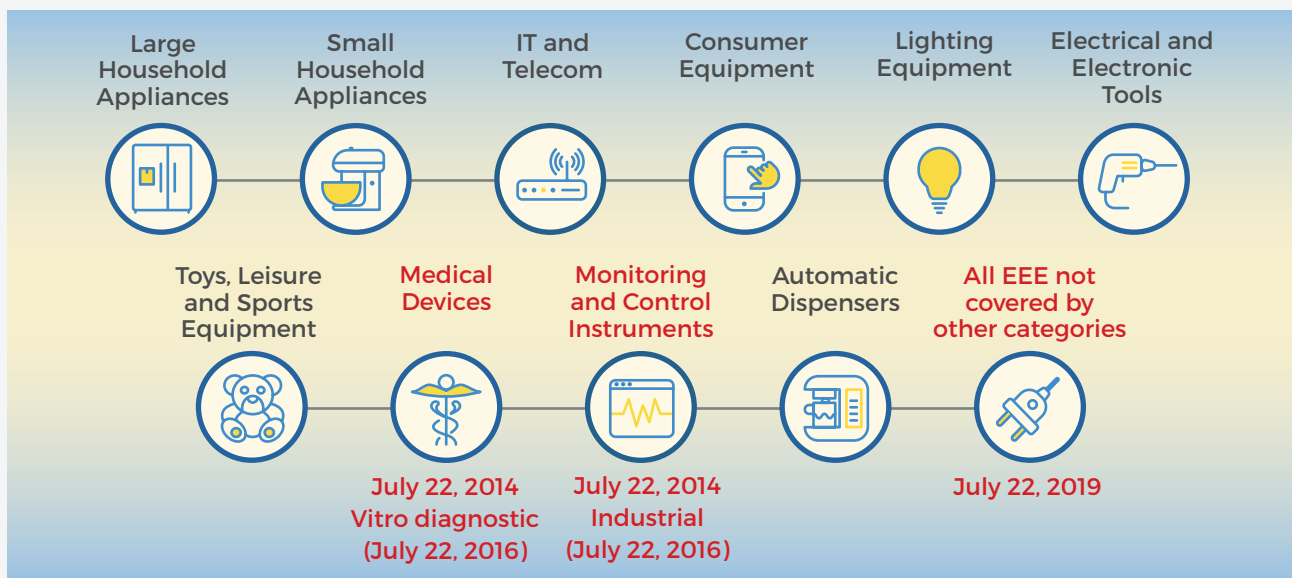


## RoHS Overview

The Restriction of Hazardous Substances Directive (RoHS) is European Union legislation that restricts the use of certain hazardous substances within electrical and electronic equipment (known as EEE). The goals of implementing these restrictions is to reduce the environmental impact from such equipment, and subsequent substances.

RoHS took effect on July 1, 2006 (2002/95/EC) and has since issued 2 official recast directives on June 8, 2011 (2011/65/EU) taking effect on July 3, 2013 and on June 4, 2015 (2015/863/EU) taking effect on July 22, 2019. RoHS 1, 2, and 3 are commonly used terms referring to the three directives 2002/95/EC, 2011/65/EU, and 2015/863/EU.

## In Scope EU RoHS Categories





## Not in Scope EU RoHS Categories

- Military equipment
- Space equipment
- Equipment designed to form part of other equipment not within scope
- Large scale industrial tools (LSIT)
- Large scale fixed installations
- Means of transportation
- Non-road mobile machinery
- Active implantable medical devices
- Photovoltaic panels
- Equipment for R&D only

## RoHS Restricted Substances

RoHS directive compliance means that restricted substances must not

exceed certain concentrations per homogenous materials level. Below are the substances and concentration limits.

Substance	Concentration Limit	Affected Directive
Cadmium (Cd)	0.01% (100 PPM)	RoHS 1, 2 and 3
Lead (Pb)	0.1% (1000 PPM)	
Mercury (Hg)		
Hexavalent chromium (Cr6+)		
Poly brominated biphenyls (PBB)		
Poly brominated di-phenyls ether (PBDE)		
Dibutyl phthalate (DBP)	RoHS 3 only (effective July 22, 2019)	
Butyl benzyl phthalate (BDBP)		
Bis (2-ethylhexyl) phthalate (DEHP)		
Diisobutyl phthalate (DIBP)		



# EU RoHS



## Who Should Declare?

RoHS is an EU directive targeting EEE products and components handled through the European Union. All

manufacturing and trading chains should work with their suppliers to collect the required information and documentation to declare.



## RoHS Compliance Declaration

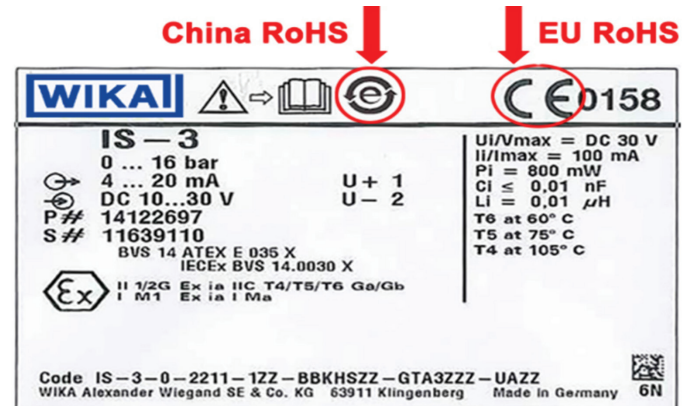
The three types of applicable documentation according to RoHS Directive 2011/65/EC Article 7(b) and EN 50581 replaced with (IEC 63000:2016)

specification include:

- Analytical test report
- Material Declarations
- Supplier declarations

## CE Mark

CE mark must be placed on all **Electrical and Electronic Equipment** by Manufacturers of products made within the European Economic Area and by importers of goods made in other countries. This mark is evidence that they are RoHS compliant.



## Failing to comply with RoHS Regulations

Penalties related to non-compliance include but not limited:

- Fines
- Product recall
- Prohibition of future sales

- Withdrawal of operating licenses
- Criminal liabilities in serious cases
- Lost market competitiveness and business chance
- Product cannot sell in Europe
- Reputation damage



## RoHS Directive Exemptions

RoHS exemptions are granted when there are no viable alternatives to the restricted substances or when alternative substances produce more environmental risk than restricted substances. Exemptions have standard codes used to identify the scope, conditions required to claim the exemption and an expiration plan.

Exemptions are temporary until a safer and better alternative becomes available. Many exemptions carry an expiration date and reviewed every four years. Two Annexes control exemptions, Annex III and IV, and are based on different categories.

## Summary of overall RoHS exemptions upon category/application

Exemption Status	No. of Exemption	Exemption %
Decided - not yet applied	1	0.3
No Longer Valid	66	17.8
Valid	169	45.6
Valid - no longer renewable	54	14.6
Valid - requested for renewal	81	21.8
<b>Total</b>	<b>371</b>	<b>%</b>

**In 2021 there are about 29% of total exemptions that will no longer be valid for renewal.**

Year	No Longer Valid	Valid - No Longer Renewable	Valid - Requested for Renewal	%
2020	5	3	2	2
2021	-	48	60	29.1
2022	-	3	-	1



## New RoHS Substances Update

On April 20, 2018, Oeko-Institut launched a stakeholder consultation on seven substances being evaluated to amend the list of restricted substances in RoHS Annex II under the project (Pack 15). The final stakeholder meeting for the Pack 15 project was held on the April 27, 2020.

The following is the summary of the discussions.

Substance	Restriction recommended
Five Cobalt Salts	No
Nickel Sulphate and Nickel Sulfamate	No
Indium Phosphide	No
Beryllium and beryllium oxide	No
Medium Chain Chlorinated Paraffins (MCCP)	Yes
Tetrabromobisphenol A (TBBP-A)	Yes
Diantimony Trioxide (ATO)	No

This process will be carried out in parallel with the current ongoing RoHS review which is due to be publish **July 2021**. Also, MCCP and TBBPA may be added to RoHS in **2021/2022** with an effective date of **2024**.

## SiliconExpert RoHS Compliance Management Solutions

SiliconExpert offers timely RoHS data collection services that identify parts non-compliant with the 2011/65/EU, and 2015/863 versions of RoHS regulating ten substances.

SiliconExpert collects RoHS3 certificates of compliance or full material disclosures from Suppliers to determine the latest RoHS status for each component, and whether any exemptions apply. This

information is then provided to our customers through a variety of tools including:

- SiliconExpert website Part Search and Part Detail pages
- SiliconExpert BOM management tool
- SiliconExpert customized APIs
- SiliconExpert Professional Service deliveries
- Alert notifications for RoHS data changes

**Contact SiliconExpert to learn more.**