

ROHS VS. REACH COMPLIANCE EXPLAINED

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The manufacturing industry is forever changing with regulations and rules. One that we are seeing more often is RoHS and REACH Compliance. These can easily be mistaken as the same or very similar. So this post will distinguish the difference between the two.

RoHS Compliant

RoHS stands for Restriction of Hazardous Substances. RoHS can be pronounced "Ar, Oh, Ach, F" or like "rose."



RoHS Compliant

This is a European Union directive rather than a regulation, meaning it is an instruction for those involved, but there isn't a enforcer or regulator of how the results are achieved. The sole purpose is to address the global issue of consumer electronics waste. With the forever evolving technology world, many electronics are disposed and end up in landfills which end up causing environmental and human health hazards. **This directive pertains to manufacturing of various types of electronic and electrical equipment without the use of six different hazardous materials:**

1. Lead (Pb)
2. Mercury (Hg)
3. Cadmium (Cd)
4. Hexavalent chromium (Cr6+): Used in chrome plating, chromate coatings, and primers
5. Polybrominated biphenyls (PBB): Flame retardant in plastic
6. Polybrominated diphenyl ether (PBDE): Flame retardant in plastic

According to [RoHSGuide.com](#), the maximum levels in non-exempt products are 0.1% or 1000 ppm (except for cadmium and mercury, which are limited to 0.01% or 100 ppm) by weight. These limits do not apply to the weight of the finished product, or even to a component, but to any single substance that could, theoretically, be separated mechanically-for example, the sheath on a cable or the tinning on a component lead.

The directive applies to the following types of equipment:

1. Large household appliances.
2. Small household appliances.
3. IT & Telecommunications equipment (although infrastructure equipment is exempt in some countries)
4. Consumer equipment.
5. Lighting equipment-including light bulbs.

6. Electronic and electrical tools.
7. Toys, leisure, and sports equipment.
8. Medical devices (exemption removed in July 2011)
9. Monitoring and control instruments (exemption removed in July 2011)
10. Automatic dispensers.
11. Semiconductor devices

Regardless of where the product is made in the European Union or imported, it is the responsibility of the company who puts the product on the market to comply with the directive. Therefore many companies will pass down the directive to their manufacturing suppliers and subcontractors in order to maintain full compliance throughout the manufacturing process.

REACH COMPLIANCE



REACH Compliance

REACH stands for:

Registration: Chemical producers are required to register safety data for all chemicals produced.

Evaluation: Experts from member states and the European Agency evaluate safety data for higher volume chemicals and other chemicals of concern.

Authorization: Chemicals that are of “very high concern” are to be phased out and replaced with safer alternative chemicals.

Restriction of Chemicals: Chemicals may be completely banned or some uses of the chemicals can be restricted.

This is a European Union regulation. *The sole purpose of REACH is to address the production and use of chemical substances, and their potential impacts on both human health and the environment.* REACH requires all companies manufacturing or importing chemical substances into the European Union in quantities of one tonne or more per year to register these substances with European Chemical Agency (ECHA). **Manufacturers, importers and also their customers are required to communicate information on chemicals throughout the supply chain in order to be aware of information relating to health and safety of the products supplied.**

Some of the chemicals that are of “very high concern” include:

- Carcinogens
- Mutagens
- Reproduction toxins
- Persistent, bio-accumulative, and toxic chemicals

Difference Between RoHS and REACH

Therefore the main difference between RoHS and REACH is that RoHS bans substances that are present in electrical equipment that is within the directive. REACH, however, pertains to all chemicals including those used to make a product. This can include materials, solvents, paints, chemicals, and more. We hope this allows you to better understand these regulations and how you can comply.