

Navigating Compliance in the Rubber Industry: RoHS, REACH, and Prop 65

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The rubber industry operates within a dynamic regulatory landscape where environmental considerations and product safety are paramount. In this article, we give a brief overview and history of three compliance standards and provide examples of related products/applications.

- European Directive(s) RoHS, RoHS 2, RoHS 3 - Restriction of Hazardous Substances in Electrical and Electronic Equipment
- European Regulation REACH - Registration, Evaluation, Authorization, and Restriction of Chemicals
- California Regulation Prop 65 - Proposition 65

Each application comes with a unique set of challenges, often including compliance & certification requirements. Key factors that help determine which compliances are needed include international regulations, direct contact with consumers, and the specific industry.

1. Quick Summary

RoHS

- A European directive that restricts hazardous substances in electronic components.
- Applications: cables, connectors, electronic device components
- Learn More: https://environment.ec.europa.eu/topics/waste-and-recycling/rohs-directive_en

RoHS 2

- Introduces CE marking and technical documentation requirements
- Applications: electronic components, jacketing, seals
- Learn More: https://environment.ec.europa.eu/topics/waste-and-recycling/rohs-directive_en

RoHS 3

- Expands substance restrictions, including additional phthalates
- Applications: rubber covers, grommets, insulation materials
- Learn More: https://environment.ec.europa.eu/topics/waste-and-recycling/rohs-directive_en

REACH

- A European regulation that manages specific chemicals through registration and restrictions across a variety of industries.

- Applications: automotive parts, rubber bumpers, and rubber gaskets
- Learn More: <https://echa.europa.eu/regulations/reach/understanding-reach>

Prop 65

- A California regulation that requires warnings for harmful substances, not limited to, but intended for consumer-facing materials.
- Applications: rubber consumer goods, rubber tubing, rubber padding
- Learn More: <https://oehha.ca.gov/proposition-65>

2. Restriction of Hazardous Substances (RoHS, RoHS 2, & RoHS 3)

The Restriction of Hazardous Substances Directive, commonly known as RoHS, first emerged on the European stage in 2003. Enforced by the European Union, RoHS may restrict the use of specific hazardous materials in producing various types of electronic and electrical equipment. While not exclusive to the rubber industry, RoHS has significant implications for those that produce or sell rubber components for electronic devices.



- **RoHS** restricts substances such as lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBBs), and polybrominated diphenyl ethers (PBDEs). These substances, when present in electronic components, may pose environmental risks during the product's lifecycle and end-of-life disposal.
- **RoHS 2**, an extension of the original directive, came into effect in 2011. Also known as Directive 2011/65/EU, RoHS 2 builds upon the framework of its predecessor by expanding the scope to include additional product categories and refining certain provisions. Notable changes include the introduction of CE marking for compliant products and the requirement for manufacturers to draw up technical documentation demonstrating conformity.
- **RoHS 3**, also known as Directive 2015/863, is the latest evolution of the RoHS framework. It introduces new substance restrictions, including four phthalates (DEHP, BBP, DBP, and DIBP), expanding the list of restricted substances.



Products & Applications: Rubber used in products such as cables, connectors, and insulation typically adhere to RoHS standards. Hazardous substances like lead, mercury, and cadmium may be restricted, promoting the safety of electronic devices and their environmental impact. Additionally, manufacturers of rubber components for electronic devices, such as keypads, seals, and grommets, typically adhere to RoHS 2 and RoHS 3. Compliance with these directives typically ensures that products remain free from restricted substances, including additional substances listed in RoHS 3, fostering product safety and environmental responsibility.

3. Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH)

Established by the European Chemicals Agency (ECHA) in 2007, REACH aims to protect human health and the environment from the risks posed by chemicals. REACH is a comprehensive framework that covers a wide range of chemicals used in various industries, including rubber manufacturing.



Under REACH, manufacturers may be required to register substances they produce or import in quantities exceeding one ton per year. The registration process involves providing detailed information on the properties and uses of the substances. Additionally, REACH empowers authorities to restrict or ban the use of certain substances deemed hazardous. Producers and distributors of rubber products, seeking to be compliant with REACH, should be aware of these restricted substances and avoid using them in their rubber components.

Products & Applications: REACH compliance relates to rubber manufacturers dealing with a wide range of chemicals. In applications like automotive parts, seals, and gaskets, rubber materials may need to comply with REACH by providing comprehensive information on substances used and adhering to the avoidance of restricted substances.

Compliance with REACH involves not only registering relevant substances but also staying informed about the inclusion of new substances in the candidate list for authorization. This regulation emphasizes communication along the supply

chain, ensuring that downstream users are aware of any restricted substances in the materials they receive. A diligent rubber manufacturer will conscientiously strive to remain in compliance with the latest standards and that their customers are well-informed according to their application-specific requirements.

4. Proposition 65 (Prop 65)

Proposition 65, officially known as the Safe Drinking Water and Toxic Enforcement Act of 1986, originated in California, USA. The primary objective was to protect the state's drinking water sources from contaminants that cause cancer, birth defects, or other reproductive harm. However, Prop 65 extends its reach beyond water sources, impacting manufacturers and businesses operating in various industries, including rubber production.



The regulation may require businesses to provide a clear and reasonable warning before knowingly exposing individuals to substances listed by the state as harmful. The intention of this regulation is application-specific, with a higher emphasis on providing awareness and warnings for consumers who may come into direct contact with these materials. For the rubber industry, this involves specific chemicals used in the manufacturing process. Substances like benzene and certain phthalates fall under Prop 65 scrutiny.

Products & Applications: Proposition 65 compliance becomes critical in applications involving rubber materials that may come in contact with consumers, such as cable jackets, rubber bumpers, or certain industrial products. These industrial products include but are not limited to, automotive seals and gaskets, electronic device components, food-grade seals and gaskets, and water-contact rubber plumbing components. Manufacturers should ensure products that contain substances listed under Prop 65, like certain phthalates, have clear warnings within their certifications should the application require it.

5. Final Considerations

A comprehensive understanding of compliance standards is an integral part of the rubber manufacturing industry. RoHS, RoHS 2, RoHS 3, REACH, and Prop 65 each contribute to the broader goal of enhancing product safety, protecting the environment, and promoting transparency in the supply chain. A manufacturer who stays well-informed and well-prepared ensures access to both current and future opportunities for themselves and their customers.

Rubber manufacturers should proactively engage with these regulations, staying abreast of updates and changes to ensure continued compliance with customer requirements. By integrating responsible practices into their operations, these manufacturers can meet regulatory requirements and contribute to the overall sustainability and safety of their products in the global market. The evolution from RoHS to RoHS 3 reflects the dynamic nature of regulatory frameworks, highlighting the need for ongoing vigilance and adaptation within the rubber industry.

WARCO develops proprietary formulations, mixes compounds, and produces your sheet, molded and extruded rubber products in a single facility. Our expertise spans beyond our

114-year history providing quality rubber products to American industry and the global supply chain. Our wealth of experience, unique flexibility and integration, and tight control over each step of production are among the key contributors to how WARCO became America's Choice for Quality Rubber. If you have any questions about how these compliances relate to your specific rubber needs, please contact us at sales@warco.com or 714-532-3355.

This article was intended as general information to aid those who produce, use, or otherwise interact with rubber materials in understanding industry standard compliances. We advise you to consult the manufacturer of your products and visit the links provided below for specific information and guidelines relating to your requirements.

Additional Sources

- https://environment.ec.europa.eu/topics/waste-and-recycling/rohs-directive_en
- <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32015L0863>
- <https://www.echa.europa.eu/regulations/reach/understanding-reach>
- <https://oehha.ca.gov/proposition-65>