PR ELECTRONICS CHEMICAL COMPLIANCE – NEGATIVE LIST

PR electronics A/S continuously strives to be a business based in responsibility and integrity.

We undertake initiatives to promote greater environmental responsibility and strive to minimize the negative environmental impact of our activities, products and services through a proactive and precautionary approach and responsible management of environmental aspects.

Therefore, our suppliers should also avoid materials and methods that may cause an environmental risk when better alternatives exist and should encourage the development and diffusion of environmentally friendly technologies.

The suppliers to PR electronics A/S must ensure that their parts and/or materials supplied as a minimum comply with the following legislations / regulations.

In order to provide our suppliers a tool to help comply with these regulations, we have developed the PR Negative List, which regulate or restricts the use of certain chemical substances in PR electronics A/S products and production process.

Please provide us with applicable compliance information on below listed regulations.

Please also sign this document to accept to be enrolled in PR electronics supplier process evaluation in regards to chemical compliance information.
PR electronics A/S has partnered with Assent Compliance Inc. on this process. You will therefore receive an email invitation to the PR Compliance Portal where you according to legislation required frequency are required to upload updated applicable chemical compliance documentation on the parts supplied to PR electronics A/S.

Total list of legislation (Scope will vary depending on part type)

- EU REACH (EU Regulation 1907/2006)
- EPA TSCA Section 6(h)
- EU RoHS 3 (EU Directive 863/2015)
- EU SRR (EU Regulation 1257/2013)
- EU Conflict Minerals (EU regulation 2017/821)
- EU Batteries (EU Directive 66/2006)
- EU ECHA SCIP (EU Directive 2018/851)
- China RoHS
- IMO MEPC 269(68)
- US Conflict Minerals (US Dodd-Frank Act, Section 1502)
- EU Packaging (EU Directive 94/62)

If you have any questions regarding PR Negative List, please contact us at Compliance@prelectronics.com

Signature Name	Function	Date	Email to receive invitation to PR Compliance Portal

Legislation	Scope of legislation	PR relevance	PR comments
REACH (EU Regulation 1907/2006)	• Registration, Evaluation, Authorization and restriction of Chemicals	Directly governed by law.	200+ chemicals with threshold limit value – lists updated several times a year. Consist of 2 lists of chemicals requiring an approval: • An Authorization list containing restricted/banned chemicals • A Candidate list with particularly problematic chemicals (SVHC), threshold limit 0,1 w/w% Obligation to communicate downstream in your supply chain if your product contains any of the regulated chemical substances. At minimum inform your customers of: • the substance name, • content amount, • where the substance is contained in your product, • and if applicable, safety advise on how to use the product safely.
EU ECHA SCIP (EU Directive 2018/851)	• SCIP is the database for information on **S**ubstance of **C**oncern **I**n articles as such or in complex objects (**P**roducts). • Companies supplying articles containing SVHC in concentration above 0,1% w/w on the EU market have to submit information to ECHA	Directly governed by law. Effective as of January 05, 2021	SVHC in concentration above 0,1% w/w as described above. In fact this is to ensure the above mentioned obligation to communicate downstream users of any regulated chemical contained in the product.

EPA TSCA Section 6(h)	• To reduce exposure to certain chemicals that are persistent, bioaccumulative and toxic (PBT)	Directly governed by US law.	To be allowed to sell on the US market the product must comply with the regulation.
			
			As of January 6, 2021 following substances are regulated/prohibited:
			• Decabromodiphenyl ether (DecaBDE) (CAS No. 1163-19-5)
			  ○ Used as flame retardant in plastic
			• Phenol, isopropylated phosphate (3:1) (PIP(3:1)) (CAS No. 68937-41-7)
			  ○ Used as flame retardant in plastic
			• Pentachlorothiphenol (PCTP) (CAS No. 133-49-3)
			  ○ Used in rubber industry
			• 2,4,6-Tris(tern-butyl)phenol (2,4,6-TTBP) (CAS No. 732-26-3)
			  ○ Additive/ingredient in fuel
			• Hexachlorobutadiene (HCBD) (CAS No. 87-68-3)
			  ○ By-product from the production of chloro-hydrocabon

EU RoHS2 (EU Directive 65/2011) EU RoHS3 (EU Directive 863/2015)	• Restriction of certain hazardous substances in electrical and electronic equipment • Scope is by July 22, 2019 extended to include “all electrical and electronic equipment (EEE), including cables and spare parts”.	Directly governed by law Business specific. No requirement in legislation to communicate exemptions, if any, neither to customers nor in product documentation. PR electronics A/S have had this assessed by the Danish Authorities	Restriction on 10 substances: • Lead • Mercury • Cadmium • Hexavalent chromium • Polybrominated biphenyls (PBB) • Polybrominated diphenyl ethers (PBDE) • Bis(2-ethylhexyl) phthalate (DEHP) • Butyl benzyl phthalate (BBP) • Dibutyl phthalate (DBP) • Diisobutyl phthalate (DIBP) Exemptions exist for specific applications.

<table>
<tr>
<td>China RoHS2</td>
<td>

Restriction of certain hazardous substances in electrical and electronic equipment sold in China
Product must be marked with EFUP logo - “Environmental-friendly use period” + hazardous substance marking in product instructions on name and content of hazardous substance and where in the product the substance is contained.

</td>
<td>Directly governed by law – because PR sell products into China.

The electrical and electronic products which are imported and sold in China should conform to the National Standard GB/T 26572 – 2011 on limits to the hazardous substances used in electrical and electronic products (Article 11 and 16)

The manufacturer and importer of electrical and electronic products should properly mark the hazardous substances contained in the electrical and electronic products they put into the market according the Industrial Standard SJ/T 11364 – 2014 (Article 13)

PR electronics A/S have had this assessed by Chinese lawyer - Senior Partner.</td>
<td>Same restrictions as EU RoHS2, but it also covers the compounds of the substances, which make it stricter.

Exemptions for specific applications exist, but not precisely the same as for EU RoHS2.

EFUP - “Environmental-friendly use period” examples:
 

Marking table in product instruction example:
<table>
<tr><td rowspan="2">Part Name</td><td colspan="6">Hazardous Substances</td></tr>
<tr><td>Lead (Pb)</td><td>Mercury (Hg)</td><td>Cadmium (Cd)</td><td>Hexavalent Chromium (Cr (VI))</td><td>Polybrominated biphenyls (PBB)</td><td>Polybrominated diphenyl ethers (PBDE)</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7">This table is prepared in accordance with the provisions of SJ/T 11364.

O: Indicates that said hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.

X: Indicates that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572.

(Enterprises may further provide in this box technical explanation for marking “X” based on their actual circumstances.)</td></tr>
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<tr>
<td>IMO MEPC 269 (68)</td>
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Marine Environmental Protection

</td>
<td>Indirectly governed by law – Customer demand.

PR products’ content of regulated substances in components mounted on printed circuit board are exempt by §3.3.2

PR electronics A/S have had this assessed by the Danish Authorities</td>
<td>Also called Green Passport as required by marine customers e.g. shipowners/shipbuilders.

Restrictions on:

Asbestos
Polychlorinated biphenyls
Ozone depleting substances
Anti fouling systems containing organotin compound as a biocide
Cadmium and cadmium compounds

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</table>

		(Miljøstyrelsen – The Danish Environmental Protection Agency)	• Hexavalent chromium and hexavalent chromium compounds • Lead and lead compounds • Mercury and mercury compounds • Polybrominated biphenyl (PBBs) • Polybrominated diphenyl esters (PBDEs) • Polychlorinated napthhalenes • Radioactive substances • Certain shortchain chlorinated paraffins (Alkanes, C10-C13, chloro) Exemptions exist for specific materials §3.3.2
EU SRR (EU Ship Recycling Regulation) (EU Regulation No 1257/2013)	• Marine Environmental Protection	Indirectly governed by law – Customer demand. PR products' content of regulated substances in components mounted on printed circuit board are exempt by Article 5.3.C referring to IMO MEPC guideline where §3.3.2 describes exemptions PR electronics A/S have had this assessed by the Danish Authorities (Miljøstyrelsen – The Danish Environmental Protection Agency)	Also called IHM (inventory of Hazardous Materials) as required by marine customers e.g. shipowners/shipbuilders. Restrictions on: • Same as for IMO MEPC including: • Perfluoroctane sulfonic acid (PFOS) • Brominated flame retardant (HDCDD) IHM to be made according to IMO MEPC guideline that describes exemptions for specific materials (PCB).
EU Directive 66/2006	• Batteries & accumulators • Waste batteries & accumulators	Directly governed by law.	Scope: To minimize negative impact from batteries and accumulators on the environment
EU Directive 94/62	• Packaging • Packaging waste	Directly governed by law.	This directive covers all packaging no matter industry.

US Dodd-Frank Wall Street Reform and Customer Protection Act, Section 1502	• Conflict Minerals (Gold, Tin, Tungsten & Tantalum)	Indirectly governed by law – Customer requirement	Gold, Tin, Tungsten & Tantalum – The production of the minerals must not contribute to the conflict in Congo and the surrounding countries. No matter where the minerals are from, they are named “conflict minerals” and reporting is mandatory. Reporting by standardized CMRT template.
EU Conflict Minerals (Regulation (EU) 2017/821 EU Conflict Minerals FAQ	• Conflict Minerals (Gold, Tin, Tungsten & Tantalum)	Directly governed by law including customer requirement.	EU directive with extended scope (compared to US regulation above): “Conflict-affected or high-risk areas”. Reporting using the same standardized CMRT template as for US Conflict Minerals (above).