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EU PUBLISHES ASSESSMENT REPORT FOR ROHS EXEMPTION (PACK 22)

On January 13, 2022, the final evaluation report of the EU RoHS consulting project Pack 22 was officially released. The report evaluates and recommends extensions for a total of nine exemption clauses in Appendix III, including 6(a), 6(a)-I, 6(b)-I, 6(b)-II, 6(c), 7(c)-I and 7(c)-II, covering a wide range of materials used in a wide range of electrical and electronic products, including steel alloys, aluminum alloys, copper alloys, high temperature solders, glass and ceramics in electrical and electronic components.

In addition, five new exemption clauses have been added to the report, including 6(a)-II, 6(b)-III, 6(b)-IV, 7(c)-V, 7(c)-VI, and 7(a) application scenarios are detailed to help companies identify whether materials are within the scope of exemptions more effectively.

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On December 15 2020, the Pack 22 consultancy project was officially launched, which involved a wide range of exemption clauses, the EU will issue a final exemption clause update directive in the Official Journal (EUOJ) in accordance with the recommendations of this assessment report, and companies can refer to the contents of this assessment report to make product adjustments and respond to regulatory changes in advance.

The recommendations in the assessment report are shown below.

EXEMPTION	CONTENT	APPLICABLE PRODUCT CATEGORY	RECOMMENDED VALIDITY PERIOD
6(a)	Lead as an alloying element, the content in machining steel and galvanized steel does not exceed 0.35%	Class 8 in vitro diagnostic medical devices	July 21, 2023
		Class 9 Industrial Monitoring Equipment	July 21, 2024
		Category 11	
6(a)-I	Lead as an alloying element, the content of which is not more than 0.35% in steel for machining	All categories	July 21, 2024
6(a)-II	Lead as an alloying element, the content of galvanized steel components in batch heat treatment does not exceed 0.2%		July 21, 2026
6(b)-I	Lead, as an alloying element, does not exceed 0.4% in aluminum, and lead comes from leaded aluminum scrap		12 months after the final decision
6(b)-II	Lead as an alloying element, not more than 0.4% in aluminum alloys for machining purposes		18 months after the final decision
6(b)-III	Lead as an alloying element, the content in aluminum casting alloys does not exceed 0.3%, and lead comes from lead-containing aluminum scrap		July 21, 2026

EXEMPTION	CONTENT	APPLICABLE PRODUCT CATEGORY	RECOMMENDED VALIDITY PERIOD
6(b)-IV	Lead as an alloying element in aluminum alloys for processing, for air valves of Class 1 large household appliances, with a content of not more than 0.4%	Category 1 large household appliances	December 31, 2024
6(c)	Lead in copper alloys, no more than 4%	All categories	July 21, 2026
7(a)	Lead in high melting temperature type solder (e.g. lead-based alloy solder with a lead content of more than 85%) (excluding the scope of the exemption section 24)	All categories other than applications covered by the exemption clause in Section 24 of the Appendix	July 21, 2024
	Lead in high melt temperature solder (e.g. lead-based alloy solders with a lead content of more than 85%) for the following applications (excluding the scope of Exemption Section 24): i. The interconnection used for the chip, or other components and chips in the semiconductor assembly, has a steady-state or transient/pulse current greater than or equal to 0.1 A or a blocking voltage greater than 10 V, or a chip edge size greater than 0.3 mm x 0.3 mm ii. For the overall connection of the chip connection in electrical and electronic components (referring to the internal and external), if the thermal conductivity of the cured/sintered chip connection material is greater than 35 W/(m*K), and the conductivity of the cured/sintered chip connection material should be greater than 4.7 MS/m, and the solid phase line melting temperature must be higher than 260°C iii. Primary solder joints (internal or external) used to manufacture components so that the electronic component is subsequently mounted on subassemblies (i.e. modules or sub-boards or substrates or point-to-point soldering) using secondary solder so that the first stage solder is not reflowed. Chip connection and sealing are not included iv. Secondary solder joints for connecting components to a printed circuit board or lead frame: • Welded balls for attaching ceramic ball grid arrays (BGA) • Over-moulding of high temperature plastics (>220°C) v. As a sealing material for: • Ceramic package or plug and metal housing • Component terminations and internal sub-assemblies vi. Used to establish electrical connections between lamp components of incandescent reflective lamps in infrared heating or high-intensity discharge lamps or oven lamps vii. Audio sensor with peak operating temperature above 200°C		July 21, 2026
7(c)-I	Lead contained in glass or ceramics in electrical and electronic components (except dielectric ceramics in capacitors), such as lead in piezoelectric devices, or in glass/ceramic matrix compounds	All categories	July 21, 2024
7(c)-V	Lead contained in glass or glass matrix compounds in electrical and electronic components that have the following functions: i. Protection and electrical insulation of glass layers for high-voltage diode glass beads and wafers based on lead zinc borate or lead-silicon borate glass bodies* ii. For sealing between ceramic, metal and/or glass parts iii. For connection in a process parameter window with a <500 °C and a viscosity of 1013,3 dPas (i.e. "glass transition temperature") iv. Used as a resistive material such as ink with resistivity ranging from 1 ohm/s to 1 MΩ/s, excluding trimmer potentiometers** v. Chemically modified glass surfaces for microchannel plates (MCPs), channel electron multipliers (CEMs) and resistive glass products (RGPs).	All categories	July 21, 2026

EXEMPTION	CONTENT	APPLICABLE PRODUCT CATEGORY	RECOMMENDED VALIDITY PERIOD
7(c)-VI	Lead contained in ceramics in electrical and electronic components that have the following functions (excluding applications covered by Sections 7(c)-II, 7(c)-III and 7(c)-IV): i. Piezoelectric lead zirconium titanate (PZT) ceramic ii. Ceramics with positive temperature coefficient (PTC) are available	All categories	July 21, 2026
7(c)-II	Lead in dielectric ceramics in capacitors with a rated voltage of 125 V AC or 250 V DC or higher	All categories of applications covered by the exemption clauses in Sections 7(c)-I and 7(c)-IV of the Appendix	July 21, 2026

In accordance with the provisions of the RoHS Directive, the exemption clause for applying for an extension remains in force during the official evaluation period. If the extension application is rejected or the exemption clause is revoked, a transition period of 12 to 18 months will be set from the date of the decision. As the exemption clause has the characteristic that "once there is a feasible alternative or technology in the market, the clause will be cancelled", SGS recommends that manufacturers of electronic and electrical products that are now benefiting from the exemption clause pay close attention to the latest developments in the exemption clause and prepare in advance for supplier selection and technological upgrades to avoid the relevant risks.

*With a proven track record in product safety certification, **SGS**' global network of RoHS accredited labs and specialists are the ideal partner to verify your compliance to RoHS.*

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