



# HONGCAI TESTING

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## EU issued RoHS Directive Pack 23 final report

In December 2022, Bio Innovation Service issued the final report of EU RoHS Directive Pack 23, aiming to provide opinions on whether the 12 exemptions in RoHS Annex III should be postponed. The exemption entry are 4(f), 8(b), 8(b)(I), 9, 9(a)(II), 13(a), 13(b), 13(b)(I), 13(b)(II), 13(b)(III), 15. 15(a). 8(b)(I) is about the cadmium exemption of electrical contacts, which needs special attention. In the future, the European Commission will formally revise the above 12 exemptions based on the recommendations of the final report. The specific contents of the current exemption and final report recommendations are as follows:

Entry	Current exemptions	Report recommendations	Scope and expiry date
4(f)	Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex	Renewal requests withdrawn due to exemption renewal by COM based on earlier renewal request, c.f. ex. 4(f)(I to IV) of Annex III of RoHS Directive	/
8(b)	Cadmium and its compounds in electrical contacts	8(b) Cadmium and its compounds in electrical contacts	Applies to categories 8, 9 and 11 Expires on [date of the official publication of the COM decision in the Official Journal + 18 months] for - category 8 medical devices including in-vitro diagnostic medical devices - category 9 monitoring and control instruments including industrial monitoring and control instruments - category 11
		8(b)(II) Cadmium and its compounds in electrical contacts of - circuit breakers - thermal sensing controls - thermal motor protectors (excluding hermetic thermal motor protectors) - AC switches - DC switches	Applies, from [date of the official publication of the COM decision in the Official Journal + 12 months + 1 day] on, to categories 8 and 9. Expires on - 31 December 2023 for circuit breakers in rotating parts of computer tomography (CT) medical devices (category 8 medical devices others than in-vitro diagnostic medical devices) - 31 December 2025 for portable emergency defibrillators (cat. 8 medical devices others than in-vitro diagnostic medical devices) with a



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			<p>Declaration of Conformity (DOC) issued for the first time before 1 January 2015</p> <p>- 31 December 2025 for other cat. 8 medical devices including in-vitro diagnostic medical devices, and for category 9 monitoring and control instruments including industrial monitoring and control instruments, and for category 11.</p>
		<p>8(c) Cadmium and its compounds in electrical contacts that are not covered by exemption 8(b)(II), and excluding</p> <ul style="list-style-type: none"> <li>- resistive inks of infrared emitters in medical capnography sensors used with lung ventilators</li> <li>- gold-containing pastes for coating electrodes for connections to electrical sensing and signal processing circuits via gold wires in sensors for detection of low-level oxygen concentrations at elevated temperatures.</li> </ul>	<p>Applies, from [date of the official publication of the COM decision in the Official Journal + 18 months + 1 day] on, to categories 8 and 9.</p> <p>Expires on 21 July 2025 for cat. 8 medical devices including in-vitro diagnostic medical devices and cat. 9 monitoring and control instruments including industrial monitoring and control instruments</p>
8(b)(I)	<p>Cadmium and its compounds in electrical contacts used in:</p> <ul style="list-style-type: none"> <li>- circuit breakers,</li> <li>- thermal sensing controls,</li> <li>- thermal motor protectors (excluding hermetic thermal motor protectors)</li> <li>- AC switches rated at:                             <ul style="list-style-type: none"> <li>- 6 A and more at 250 V AC and more, or</li> <li>- 12 A and more at 125 V AC and more</li> </ul> </li> <li>- DC switches rated at 20 A and more at 18 V DC and more, and</li> <li>- switches for use at voltage supply frequency <math>\geq 200</math> Hz</li> </ul>	<p>8(b)(I) Cadmium and its compounds in electrical contacts of</p> <ul style="list-style-type: none"> <li>- circuit breakers,</li> <li>- thermal sensing controls,</li> <li>- thermal motor protectors (excluding hermetic thermal motor protectors)</li> </ul>	<p>Expires on 31 December 2023 for cat. 1-7 and 10</p>
		<p>8(b)(I) Cadmium and its compounds in electrical contacts of</p> <ul style="list-style-type: none"> <li>- AC switches rated at:                             <ul style="list-style-type: none"> <li>- 6 A and more at 250 V AC and more, or</li> <li>- 12 A and more at 125 V AC and more</li> </ul> </li> <li>- DC switches rated at 20 A and more at 18 V DC and more, and</li> <li>- switches for use at voltage supply frequency <math>\geq 200</math> Hz</li> </ul>	<p>Expires on [date of the official publication of the COM decision in the Official Journal + 12 months] for cat. 1-7 and 10</p>
		<p>8(b)(III) Cadmium and its compounds in electrical contacts of</p> <ul style="list-style-type: none"> <li>- AC switches rated at                             <ul style="list-style-type: none"> <li>- 10 A and more at 250 V AC and more, or</li> <li>- 15 A and more at 125 V AC and more,</li> </ul> </li> <li>- DC switches rated at 25 A and more at</li> </ul>	<p>Applies, from [date of the official publication of the COM decision in the Official Journal + 12 months + 1 day] on, to categories 1-7, 10 and 11</p> <p>Expires on 31 December 2025 for cat. 1-7, 10 and 11</p>



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		18 V DC and more.	
9	Hexavalent chromium as an anticorrosion agent of the carbon steel cooling system in absorption refrigerators up to 0,75 % by weight in the cooling solution	Grant exemption as separate ex. 9(a)(III) if COM deems negative impacts of substitution likely to outweigh benefits thereof: Up to 0.7 % by weight of hexavalent chromium as an anticorrosion agent in the working fluid of the carbon steel sealed circuit of gas absorption heat pumps for space and water heating.	Expires on 31 December 2026 for cat. 1 gas absorption heat pumps.
9(a)(II)	Up to 0,75 % hexavalent chromium by weight, used as an anticorrosion agent in the cooling solution of carbon steel cooling systems of absorption refrigerators: - designed to operate fully or partly with electrical heater, having an average utilised power input $\geq 75$ W at constant running conditions, - designed to fully operate with non-electrical heater.	Renew with current wording. 9(a)(II) Up to 0,75 % hexavalent chromium by weight, used as an anticorrosion agent in the cooling solution of carbon steel cooling systems of absorption refrigerators: - designed to operate fully or partly with electrical heater, having an average utilised power input $\geq 75$ W at constant running conditions, - designed to fully operate with non-electrical heater.	Applies to categories 1-7 and 10 Expires on - 21 July 2021 for categories 2-7 and 10 - 31 December 2025 for cat. 1
13(a)	Lead in white glasses used for optical applications	13(a) Lead in glasses used for optical applications excluding applications falling under points 13(b), 13(b)(I), 13(b)(II), 13(b)(III), 13(b)(IV) of this Annex	Expires on: - 21 July 2025 for categories 1, 2, 5, and 10; - 21 July 2026 for categories 3, 4, 6, 7, 8, 9, and 11; - 21 July 2028 for category 8 in vitro diagnostic medical devices and category 9 industrial monitoring and control
13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards	13(b) Cadmium and lead in filter glasses and glasses used for reflectance standards	Applies to categories 8, 9 and 11. Expires on [date of publication in Official Journal + 12 months] for - category 8 medical devices including in vitro diagnostic medical devices; - category 9 monitoring and control instruments including industrial monitoring and control instruments; - category 11.



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		13(b)(IV) Cadmium in glazes used for reflectance standards	Applies to cat. 8 and 9 from [date of publication in Official Journal + 12 months+ 1 day] on. Expires on 21 July 2028 for category 8 medical devices including in-vitro diagnostic medical devices and category 9 monitoring and control instruments including industrial monitoring and control instruments.
		13(b)(V) Lead compound coatings in infrared interference filters used in infrared gas analysis and mid-far-infrared spectroscopy	Applies to category 9 industrial monitoring and control instruments from [date of publication in Official Journal + 12 months + 1 day on]. Expires on 21 July 2028 for category 9 industrial monitoring and control instruments.
13(b)(I)	Lead in ion coloured optical filter glass types	13(b)(I) Lead in ion coloured optical filter glass types	Applies - to categories 1-7 and 10; - from [date of publication in Official Journal + 12 months + 1 day] on to categories 8, 9 and 11. Expires on - 21 July 2025 for categories 1, 4; - 21 July 2026 for categories 2, 3, 5, 6, 7, 10 and 11; - 21 July 2028 for category 8 medical devices including in-vitro diagnostic medical devices and category 9 monitoring and control instruments including industrial monitoring and control instruments.
13(b)(I)	Cadmium in striking optical filter glass types; excluding applications falling under point 39 of Annex III	13(b)(II) Cadmium in striking optical filter glass types; excluding applications falling under point 39(a) of Annex III	
13(b)(I)	Cadmium and lead in glazes used for reflectance standards	13(b)(III) Cadmium and lead in glazes used for reflectance standards	Expires on [date of publication in Official Journal + 12 months] for categories 1 to 7 and 10.
15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages	15 Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages.	Applies to categories 8, 9 and 11. Expires on [date of publication in Official Journal + 12 months] for - cat. 8 medical devices including in-vitro diagnostic medical devices and; - cat. 9 monitoring and control instruments including industrial monitoring and control instruments; - cat. 11.
15(a)	Lead in solders to complete a viable	15(a) Lead in solders to complete a viable electrical connection between the	The evaluation report does not recommend an extension, but if the



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<p>electrical connection between the semiconductor die and carrier within integrated circuit flip chip packages where at least one of the following criteria applies:</p> <ul style="list-style-type: none"> <li>- a semiconductor technology node of 90 nm or larger;</li> <li>- a single die of 300 mm<sup>2</sup> or larger in any semiconductor technology node;</li> <li>- stacked die packages with die of 300 mm<sup>2</sup> or larger, or silicon interposers of 300 mm<sup>2</sup> or larger.</li> </ul>	<p>semiconductor die and carrier within integrated circuit flip chip packages where at least one of the following criteria applies:</p> <ul style="list-style-type: none"> <li>- a semiconductor technology node of 90 nm or larger;</li> <li>- a single die of 300 mm<sup>2</sup> or larger in any semiconductor technology node;</li> <li>- stacked die packages with die of 300 mm<sup>2</sup> or larger, or silicon interposers of 300 mm<sup>2</sup> or larger.</li> </ul>	<p>Committee deems it necessary to extend the time, the evaluation report suggests updating according to the following wording.</p> <p>Applies</p> <ul style="list-style-type: none"> <li>- to categories 1-7 and 10</li> <li>- from [date of publication in Official Journal + 12 months + 1 day] on, to cat. 8, 9 and 11</li> </ul> <p>Expires on [DATE] for categories 1-11.</p>
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Original link: [http://rohs.biois.eu/RoHS\\_Pack-23\\_Report\\_Final\\_20221220.pdf](http://rohs.biois.eu/RoHS_Pack-23_Report_Final_20221220.pdf)

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