

Our Ref. RoHS 2018/01

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Explanatory Note

1. Introduction

Title of Regulations	Restriction of Use of Hazardous Substances in Electrical and Electronic Equipment (Amendment) Regulations, 2018.
Activity to be regulated	The restriction of the use of certain hazardous substances in electrical and electronic equipment.
Responsible entity	The Technical Regulations Division (TRD) within the Malta Competition and Consumer Affairs Authority (MCCAA).

2. Summary and background

2.1 Aims & Objectives of the legislation

Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (the "Directive"), lays down rules on the restriction of the use of hazardous substances in electrical and electronic equipment (EEE), with a view to contributing to the protection of human health and the environment, including the environmentally sound recovery and disposal of waste EEE.

Member States shall ensure that EEE placed on the market does not contain the substances listed in Annex II of the Directive. Exemptions may, however, be granted - these are listed in Annex III of the Directive. The said Annex III has been amended by the following four (4) Commission Delegated Directives and the aim of the current regulations is to transpose their provisions into Maltese law:

- (a) **Commission Delegated Directive (EU) 2017/1009** of 13 March 2017 amending, for the purposes of adapting to technical progress, Annex III to Directive 2011/65/EU of the European Parliament and of the Council as regards an exemption for cadmium and lead in filter glasses and glasses used for reflectance standards.

Objective of this Directive:

- Directive 2011/65/EU prohibits the use of lead and cadmium in electrical and electronic equipment placed on the market.
- Optical filter glasses containing cadmium or lead are used in a wide variety of optical applications for many types of electrical and electronic equipment. Both cadmium and lead are used because of the unique optical properties that their use enables, such as 'sharp cut-off' in the visible spectrum that is unaffected by viewing angle.
- Though various substitution routes exist, substitutes do not provide sufficient cut-off performance for all applications. In the few cases where alternatives are said to supply sufficient performance in this respect, the materials used are too sensitive to environmental conditions of operation and thus not sufficiently reliable.
- In this sense, alternatives are still not suitable for many applications, for which finding alternatives is complicated and time-demanding, thus five years is a justified duration for the categories 1 to 7 and 10.
- Certain optical filter glasses containing cadmium and/or lead should therefore be exempted until 21 July 2021 for categories 1 to 7 and 10. In view of the innovation cycles for the electrical and electronic equipment affected, the duration of this exemption is unlikely to have adverse impacts on innovation.

- (b) **Commission Delegated Directive (EU) 2017/1010** of 13 March 2017 amending, for the purposes of adapting to technical progress, Annex III to Directive 2011/65/EU of the European Parliament and of the Council as regards an exemption for lead in bearing shells and bushes for certain refrigerant-containing compressors.

Objective of this Directive:

- Directive 2011/65/EU prohibits the use of lead in electrical and electronic equipment placed on the market.
- Lead is used in bearings of refrigerant compressors hermetically sealed to prevent leakage of the refrigerant. Lead provides low friction in the bearing by acting as a solid lubricant in case of inadequate lubrication.
- Though lead-free bearings are viable, they still cannot reliably substitute lead bearings for the refrigerant-containing compressors with a stated electrical power input of 9 kW or lower.
- Lead in bearing shells and bushes for refrigerant-containing hermetic scroll compressors with a stated electrical power input equal or below 9 kW for heating, ventilation, air conditioning and refrigeration (HVACR) applications should therefore be exempted until

21 July 2019. In view of the innovation cycles for HVACR applications, the duration of this exemption is unlikely to have adverse impacts on innovation.

- (c) **Commission Delegated Directive (EU) 2017/1011** of 15 March 2017 amending, for the purposes of adapting to technical progress, Annex III to Directive 2011/65/EU of the European Parliament and of the Council as regards an exemption for lead in white glasses used for optical applications.

Objective of this Directive:

- Directive 2011/65/EU prohibits the use of lead in electrical and electronic equipment placed on the market.
- Lead-based glasses are used because they have unique combinations of properties and characteristics, such as light transmission performance, optical dispersion, thermal conductivity, birefringence and others.
- Lead-free optical glasses of alternative designs exist in the form of lead-free glass, plastic lenses and alternative equipment design. Nonetheless, those alternatives that cannot provide for several properties and their combinations comparable to lead-based glasses.
- Where finding substitutes was relatively straightforward, this has already occurred and substitutes are being used. Alternatives for the remaining applications are still not available. Thus substitution for the full application range is not possible in general. Lead in white glasses used for optical applications should therefore be exempted until 21 July 2021 for categories 1 to 7 and 10. In view of the innovation cycles for this type of optical applications, the duration of this exemption is unlikely to have adverse impacts on innovation.

- (d) **Commission Delegated Directive (EU) 2017/1975** of 7 August 2017 amending, for the purposes of adapting to scientific and technical progress, Annex III to Directive 2011/65/EU of the European Parliament and of the Council as regards an exemption for cadmium in colour converting light-emitting diodes (LEDs) for use in display systems + Corrigendum.

Objective of this Directive:

- Directive 2011/65/EU requires Member States to ensure that electrical and electronic equipment placed on the market does not contain cadmium.
- Point 39 in Annex III to Directive 2011/65/EU exempted the use of cadmium in colour converting light-emitting diodes (LEDs) for illumination and display applications from the prohibition until 1 July 2014. The Commission received an application for renewal of this exemption before 1 January 2013, in accordance with Article 5(5) of Directive 2011/65/EU.
- Colour converting LEDs using quantum dots have been shown advantageous as compared to earlier technology regarding energy efficiency and colour performance. The overall balance of the use of cadmium-based quantum dots in displays has a positive impact due to their lower energy consumption as compared to currently available alternative technologies. The total negative environmental, health and consumer safety impacts

caused by substitution of cadmium-based quantum dots in display applications where quantum dots are used are likely to outweigh the total environmental, health and consumer safety benefits thereof.

- The use of cadmium selenide in downshifting cadmium-based semiconductor nanocrystal quantum dots for use in display lighting applications should therefore be exempted from the prohibition until 31st October 2019. This short validity period for the exemption is unlikely to have adverse impacts on innovation and the development of cadmium free alternatives.
- Cadmium-based quantum dot LEDs for illumination are not yet available on the market and their potential advantages in comparison with existing technologies are not properly quantifiable, thus a renewal of the exemption as regards illumination applications is not justified.

This European legislation can be accessed through the following links:

Commission Delegated Directive (EU) 2017/1009:

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017L1009&from=EN>

Commission Delegated Directive (EU) 2017/1010:

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017L1010&from=EN>

Commission Delegated Directive (EU) 2017/1011:

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017L1011&from=EN>

Commission Delegated Directive (EU) 2017/1975:

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017L1975&from=EN>

2.2 Importance of Regulations

Commission Delegated Directive (EU) 2017/1009 is important because it:

- provides an exemption for certain cadmium and lead in filter glasses and glasses used for reflectance standards;

Commission Delegated Directive (EU) 2017/1010 is important because it:

- Provides an exemption for Lead in bearing shells and bushes for refrigerant-containing hermetic scroll compressors with a stated electrical power input equal or below 9 kW for heating, ventilation, air conditioning and refrigeration (HVACR) applications.

Commission Delegated Directive (EU) 2017/1011 is important because it:

- Provides for an exemption for certain categories for lead in white glasses used for optical applications for certain categories.

Commission Delegated Directive (EU) 2017/1975 is important because it:

- Provides for renewal of the exemption of the exemption for cadmium in colour converting light-emitting diodes (LEDs) for use in display systems.

2.3 Public Consultation

Interested parties are invited to submit comments on the draft legal notice by **Friday 23rd February 2018**.

3. Overview of the structure of the instrument

The new instrument consists of 4 regulations.

Regulation 1 is introductory, referring to the principal regulations (S.L. 427.57) being amended by the current new regulations;

Regulation 1(2) provides for the respective dates for the coming into force of the new regulations;

Regulation 2 amends the principle regulations by the deletion of sub-regulation (IA) of regulation 2 thereof;

Regulation 3 substitutes regulation 2A of the principal regulations and specifically mentions the 4 Delegated Commission Directives [in paragraphs (ff), (gg), (hh) and (ii) of the new regulation 2A], being transposed by the new regulations;

Regulation 4 effectively transposes the provisions of the 4 Delegated Commission Directives, by amending Schedule III of the principal regulations.

4. Commentary on parts and articles

Implementing Regulation Number.	Meaning
4 (a) – Directive (EU) 2017/1009	This delegated Directive provides an exemption for certain cadmium and lead in filter glasses and glasses used for reflectance standards. Point 13(b) of the exemptions listed in Annex III to Directive 2011/65/EU is updated for the purpose of adaptation to scientific and technical progress.

<p>4 (b) – Directive (EU) 2017/1010</p>	<p>This delegated Directive provides an exemption for Lead in bearing shells and bushes for refrigerant-containing hermetic scroll compressors with a stated electrical power input equal or below 9 kW for heating, ventilation, air conditioning and refrigeration (HVACR) applications.</p> <p>Point 9(b) of the exemptions listed in Annex III to Directive 2011/65/EU is updated for the purpose of adaptation to scientific and technical progress.</p>
<p>4 (c) - Directive (EU) 2017/1011</p>	<p>This delegated Directive provides for an exemption for certain categories for lead in white glasses used for optical applications for certain categories.</p> <p>Point 13(a) of the exemptions listed in Annex III to Directive 2011/65/EU is updated for the purpose of adaptation to scientific and technical progress.</p>
<p>4 (d) - Directive (EU) 2017/1975</p>	<p>This delegated Directive provides for renewal of the exemption of the exemption for cadmium in colour converting light-emitting diodes (LEDs) for use in display systems.</p> <p>Point 39 of the exemptions listed in Annex III to Directive 2011/65/EU is updated for the purpose of adaptation to scientific and technical progress.</p>

5. Concluding Section

Regulation 4(a), (b), (c) shall apply as from 6th July 2018 and regulation 4(d) shall apply as from 21st November 2018.

Interested parties are invited to submit comments on the draft legal notice by **Friday 23rd February 2018**.

Should more information be required kindly contact the Regulatory Affairs Directorate within the Malta Competition and Consumer Affairs Authority.

Annex

(for the purpose of paragraph (vi) of Schedule III of Chapter 512 of the Laws of Malta)

Transposition Notes for the implementation of the following Commission Delegated Directives:

Commission Delegated Directive (EU) 2017/1009 of 13 March 2017 amending, for the purposes of adapting to technical progress, Annex III to Directive 2011/65/EU of the European Parliament and of the Council as regards an exemption for cadmium and lead in filter glasses and glasses used for reflectance standards:

Directive Article Number	Objective	Implementing Regulation
Article 1.	Scope of Directive.	Regulation 4(a).
Article 2.	Date for the adoption and publication of the implementing provisions.	Regulation 1(2).
Article 3.	Entry into force of Directive.	No transposition is necessary.
Article 4.	Directive addressed to Member States.	No transposition is necessary.
Annex	Details of exemptions permitted.	Regulation 4(a).

Commission Delegated Directive (EU) 2017/1010 of 13 March 2017 amending, for the purposes of adapting to technical progress, Annex III to Directive 2011/65/EU of the European Parliament and of the Council as regards an exemption for lead in bearing shells and bushes for certain refrigerant-containing compressors:

Directive Article Number	Objective	Implementing Regulation
Article 1.	Scope of Directive.	Regulation 4(b).
Article 2.	Date for the adoption and publication of the implementing provisions.	Regulation 1(2).
Article 3.	Entry into force of Directive.	No transposition is necessary.
Article 4.	Directive addressed to Member States.	No transposition is necessary.
Annex	Details of exemptions permitted.	Regulation 4(b).

Commission Delegated Directive (EU) 2017/1011 of 15 March 2017 amending, for the purposes of adapting to technical progress, Annex III to Directive 2011/65/EU of the European Parliament and of the Council as regards an exemption for lead in white glasses used for optical applications:

Directive Article Number	Objective	Implementing Regulation
Article 1.	Scope of Directive.	Regulation 4(c).
Article 2.	Date for the adoption and publication of the implementing provisions.	Regulation 1(2).
Article 3.	Entry into force of Directive.	No transposition is necessary.

Article 4.	Directive addressed to Member States.	No transposition is necessary.
Annex.	Details of exemptions permitted.	Regulation 4(c).

Commission Delegated Directive (EU) 2017/1975 of 7 August 2017 amending, for the purposes of adapting to scientific and technical progress, Annex III to Directive 2011/65/EU of the European Parliament and of the Council as regards an exemption for cadmium in colour converting light-emitting diodes (LEDs) for use in display systems:

Directive Article Number	Objective	Implementing Regulation
Article 1.	Scope of Directive.	Regulation 4(d).
Article 2.	Date for the adoption and publication of the implementing provisions.	Regulation 1(2).
Article 3.	Entry into force of Directive.	No transposition is necessary.
Article 4.	Directive addressed to Member States.	No transposition is necessary.
Annex.	Details of exemptions permitted.	Regulation 4(d).

N.B. This Explanatory Note is not intended to be an exhaustive description of the instrument nor a substitute thereof or a legislative supplement to it. This Note does not purport to be an authoritative ruling on the interpretation of the legislation.