EUROPEAN
COMMISSION

Brussels, XXX
[…](2024) XXX draft

ANNEX

ANNEX

to

Commission Delegated Directive

amending Directive 2011/65/EU of the European Parliament and of the Council as regards an exemption for lead in high melting temperature solders

ANNEX

In Annex III to Directive 2011/65/EU, point 7(a) is replaced by the following:

‘7(a)	Lead in high melting temperature type solders (i.e., lead-based alloys containing 85% by weight or more lead)	Applies to all categories (except applications covered by point 24 of this Annex) and expires on 31 December 2026.
7(a)-I	Lead in high melting temperature type solders (i.e., lead-based alloys containing 85% by weight or more lead) for internal interconnections for attaching die, or other components along with a die in semiconductor assembly with steady state or transient/impulse currents of 0.1 A or greater or blocking voltages beyond 10 V, or die edge sizes larger than 0.3 mm x 0.3 mm	Applies to all categories (except applications covered by point 24 of this Annex) and expires on 31 December 2027.
7(a)-II	Lead in high melting temperature type solders (i.e., lead-based alloys containing 85% by weight or more lead) for integral (meaning internal and external) connections of die attach in electrical and electronic components, if all the following conditions are met: - the thermal conductivity of the cured/sintered die-attach material is >35W/(m*K), - the electrical conductivity of the cured/sintered die-attach material is >4.7MS/m , - solidus melting temperature is higher than 260°C	Applies to all categories (except applications covered by point 24 of this Annex) and expires on 31 December 2027.
7(a)-III	Lead in high melting temperature type solders (i.e., lead-based alloys containing 85% by weight or more lead) in first level solder joints (internal or integral connections - meaning internal and external) for manufacturing components so that subsequent mounting of electronic components onto subassemblies (i.e. modules, sub-circuit boards, substrates, or point-to-point soldering) with a secondary solder does not reflow the first level solder. This sub-entry excludes die attach	Applies to all categories (except applications covered by point 24 of this Annex) and expires on 31 December 2027.

	applications and hermetic sealings	
7(a)-IV	Lead in high melting temperature type solders (i.e., lead-based alloys containing 85% by weight or more lead) in second level solder joints for the attachment of components to printed circuit board or lead frames: 1. in solder balls for the attachment of ceramic ball-grid-array (BGA) 2. in high temperature plastic overmouldings (> 220 °C)	Applies to all categories (except applications covered by point 24 of this Annex) and expires on 31 December 2027.
7(a)-V	Lead in high melting temperature type solders (i.e., lead-based alloys containing 85% by weight or more lead) as a hermetic sealing material between: 1. a ceramic package or plug and a metal case, 2. component terminations and an internal sub-part	Applies to all categories (except applications covered by point 24 of this Annex) and expires on 31 December 2027.
7(a)-VI	Lead in high melting temperature type solders (i.e., lead-based alloys containing 85% by weight or more lead) for establishing electrical connections between lamp components in incandescent reflector lamps for infrared heating, high intensity discharge lamps, or oven lamps	Applies to all categories (except applications covered by point 24 of this Annex) and expires on 31 December 2027.
7(a)-VII	Lead in high melting temperature type solders (i.e., lead-based alloys containing 85% by weight or more lead) for audio transducers where the peak operating temperature exceeds 200°C	Applies to all categories (except applications covered by point 24 of this Annex) and expires on 31 December 2027.’