**Bundesverband
für fachgerechten
Natur-, Tier- und Artenschutz e.V.**

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To
Oeko-Institut e.V.
Carl-Otto Gensch
P.O. Box 17 71
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Ihre Zeichen	Ihre Nachricht vom	Unsere Zeichen	Datum
			31.07.25

BNA-Stakeholder Response on RoHS exemptions under Directive 2011/65/EU - Annex III n. 2(b)(4)-I – Lamps for other general lighting and special purposes (e.g. induction lamps): 15 mg [HG]

Dear Mr. Gensch,

BNA supports the exemption of lamps included in Annex III n. 2(b)(4)-I due to its relevance for animal welfare and ex-situ species conservation. Previously, there were exceptions in the EU regulation for "*special purpose products*" (e.g., pet care, EU 1194/2012, Article 2, 4(a)(i)), but these are no longer listed in the new regulations like Directive 2011/65/EU. Although exemptions were included for some categories, pet care or animal keeping and husbandry as a category are unfortunately missing. This not only has serious implications for the husbandry and welfare of amphibians, reptiles, birds, and small mammals under human care, but also threatens biodiversity conservation projects in zoological and private facilities (*ex situ* species conservation) throughout the European Union.

Especially reptiles and amphibians rely on a combination of different wavelengths of light:

- UV-B radiation (280-315 nm) is vital for calcium metabolism of animals. A lack of UV-B radiation leads to severe health problems like metabolic bone diseases and other diseases.
- UV-A radiation (315-400 nm) is used by many animals - like anoles, chameleons, etc. – for intraspecific communication. It is furthermore required for calcium-homeostasis in amphibians, reptiles, and birds (see above). Furthermore, many bird species seem to be tetrachromatic having receptors for UV-A radiation.
- Visible light (400-780 nm) is used to orient in space, to control the day-night rhythm, to recognize potential threats, to detect prey and to communicate with conspecifics.
- Infrared-A (780-1.400 nm) is the most important heat source for thermoregulating animals like reptiles, as it is recognizable, and it penetrates all the way through the epidermis into the dermis and even somewhat into subcutaneous tissue.

To achieve a sun-like spectrum, generally a combination of different lighting products is used in animal keeping to tailor the illumination to the specific requirements of a species always consisting of UV-A, UV-B, visible light and Infrared-A:

- T5/T8 linear fluorescent bulb combined with an incandescent bulb
- LED fixture combined with an incandescent bulb and/or UV emitting products
- Metal Halide bulb combined with an incandescent bulb and/or T5/T8 linear bulbs or LED fixture
- Mercury Vapor bulb combined with an incandescent bulb and/or T5/T8 linear bulbs or LED fixture
- And even combinations of 3 different lighting/heating combinations for the more demanding species, always tailored specifically to each species, and always consisting of UVA, UVB, Visible Light and Infrared-A.

Comparing the habitat of a golden dart frog (*Phyllobates terribilis*) in the rainforests of Colombia with the Australian desert where the bearded dragon (*Pogona vitticeps*) can be found shows the complexity of light that has to be fulfilled to keep these species according to national animal welfare acts. But nowadays, it is possible to match the needs of almost every species due to a huge variety of lighting products available. Sometimes a single light source might be sufficient to ensure animal welfare, but mostly only the combination of different lighting systems allows a replication of lighting conditions as in the natural habitat. Furthermore, animals – whether their natural habitat originates in the tropical rainforest or dessert – do not spend the entire day in the sun. Reptiles bask in the morning to increase their body temperature and to become active but at Noon they often spend in shady areas to prevent overheating. Therefore, each enclosure must allow the animals to choose their temperature of comfort by creating a thermal gradient within the enclosure (Figure 1).

Figure 1: Details of terraria of different sizes with various combination of lighting systems that match the needs of the species kept inside. As can been seen, all terraria are equipped with a basic illumination and basking spots emitting UV-A/B radiation and thus containing mercury. The terrarium on the left-hand side also contains an incandescent basking bulb.

LEDs transmit visible light and probably will also emit UVA and UVB radiation in sufficient quality and spectrum in future, but the IR-A power density component is lacking in those devices. Combining infrared bulbs and spots with LED devices will not be suitable for most of the species since the proportion of visible and IR radiation does not match. Combining conductive Infrared-C heat-emitting devices like heat pads, heat cables or carbon heaters with LEDs is also of little to no use for animals, since the visible light is reaching the animal from above, whereas IR-radiation from the heat pad is coming from below or the side in the enclosure and thus will create contradictory gradients of visible and IR-C rays. Moreover, these heating systems only produce Infrared-B and -C radiation which do not optimally contribute to thermoregulation, homeostasis and well-being of animals. Conductive Infrared-C heat-emitting systems

can only be used to increase the ambient temperature and thus need to be applied in combination with sufficient lighting systems.

In our opinion, products like double capped linear fluorescent lamps are well established in animal husbandry because they combine uniform visible light with UVA/B radiation. LEDs still may have suboptimal UVA/B ratios and wavelengths and can therefore harm animal welfare. As the exemption for products from animal husbandry has unfortunately been removed in current EU legislation, BNA supports an exemption for these products (Annex III n. 2(b)(4)-I) for reasons of animal welfare and species conservation. Furthermore, we advocate for the inclusion of the category “animal keeping and husbandry” as a criterion for exemptions in EU legislation.

If you may have any questions, please contact

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Information about BNA

- BNA, founded 1985 in Cologne, Germany, is a nationwide accredited umbrella organisation according to the German Federal Nature Conservation Act (BNatSchG). BNA encompasses associations, societies as well as individual members dedicated to both animal or plant breeding and nature conservation.
- Our goals are nature and species conservation combined with animal welfare. Breeding and husbandry of (endangered) species of flora and fauna by respecting legal obligations is an indispensable contribution to *ex situ* species conservation whereby the needs of plants and animals must be guaranteed for.
- BNA executes responsibilities of public administration by providing identification tags (rings and transponders) according to German Federal Nature Conservation Act (BNatSchG) and Federal Ordinance on the Conservation of Species (BArtSchV).
- BNA transfers expert knowledge with focus on species conservation, animal welfare and husbandry of exotic and non-domestic animals to third parties like veterinarians, competent authorities as well as private breeders. For the specialized trade with animals, we conduct courses of instruction according to §11 of the German Animal Welfare Act.
- BNA closely collaborates with various scientific institutions and authorities to ensure that advice is based on the latest state of knowledge.
- BNA is registered at the Transparency Register of the German Parliament (ID R002989) and the European Commission (ID 763319145734-07).