Information note

Printing Inks and Related Products for the Manufacture of Toys

1. The EU Toy Safety Directive 2009/48/EC

All toys marketed in the EU must comply with the requirements of the Toy Safety Directive 2009/48/EC. However, on July 28, 2023, the European Commission published a proposal to replace this Directive with a new regulation to further enhance toy safety and to ensure more consistent enforcement across EU member states. Some of the expected impacts include:

- direct application of safety requirements without national transposition
- stricter controls on chemical substances in toys
- enhanced responsibility for manufacturers to demonstrate compliance with safety regulations.

Manufacturers and suppliers should closely follow updates and be prepared to adapt to the upcoming changes.

If approved, this regulation will be directly applicable in all EU member states without the need for national transposition.

The Directive emphasizes enhanced safety requirements for toys, particularly concerning the presence of chemicals. Substances classified as carcinogenic, mutagenic, or toxic for reproduction (CMR) in category 1A, 1B, or 2 under Regulation (EC) No 1272/2008 are strictly prohibited. The use of certain allergenic fragrances is restricted, and limits have been established for the migration of 19 metallic elements from toys.

These migration limits apply when toys are used as intended or in a foreseeable manner, unless the toy or its components explicitly exclude any risk of exposure due to sucking, licking, swallowing, or prolonged skin contact. Packaging materials—unless they have an intended play value—are also excluded from these requirements.

Several types of printing inks and related products supplied by EuPIA members can be used in the toy supply chain, such as for toy decoration and printing children's books.

EuPIA members do not use the elements or compounds of antimony, arsenic, cadmium, chromium (VI), lead, mercury, or selenium, nor raw materials classified as acutely toxic (categories 1-3) or as CMR category 1A or 1B under Regulation (EC) No 1272/2008 in the manufacture of inks and related products. These raw materials are explicitly excluded from use in printing inks under the EuPIA Exclusion Policy.

For specific technical and performance reasons, EuPIA members may use substances classified as CMR category 2 in certain inks and related products when they remain below the relevant concentration limits for classification, as specified in Annex II, section III, point 5(a) of the Directive.

Apart from these excluded materials, other elements included in the Directive may be present in inks, notably copper, zinc, or aluminium (which form the basis for certain blue, green, and metallic inks) or manganese (which may be present as driers in oxidative drying sheet-fed litho inks).

2. European Standard EN 71 "Safety of Toys"

The harmonized standard EN 71 - Part 3 "Migration of Certain Elements" was revised in 2013 and last amended on December 4, 2024, with the introduction of EN 71-3:2019+A2:2024. This update introduces significant changes in test methods and migration procedures to further improve toy safety.

EN 71 - Part 3 specifies the requirements and test methods for the migration of 19 elements from toy materials and toy components.

Printing inks and varnishes are not considered toys. Rules for printed toy materials are specified in section 7.3.3.3. Packaging for toys is not within scope unless it has an intended play value. Compliance with migration limits must be determined by testing the scraped-off ink and/or varnish layer. If it is not possible to scrape off this layer (e.g., in the case of paper or board), testing must be conducted on the printed toy material itself. In both cases, category III migration limits (for scraped-off toy materials) apply.

According to the EuPIA "Exclusion Policy for Printing Inks and Related Products," pigment colorants based on or compounds of the elements antimony, arsenic, cadmium, chromium (VI), lead, mercury, and selenium are not used in the manufacture of printing inks.

Other elements with limits in EN 71 - Part 3 may be present in printing inks, such as barium lake red pigments. EuPIA members strongly advise that only barium lake red pigments with low extractable barium content are used.

Since the aluminium limit was lowered in 2019, printed silver ink layers (containing metallic aluminium as the pigment) may exceed the threshold depending on coverage.

As suppliers of printing inks and related products, EuPIA members cannot take responsibility for the handling and use of their products outside their own operations. EN 71 - Part 3 pertains to the properties of the finished toy, not the ink supplied to the printer, meaning that it is the toy manufacturer's responsibility to ensure compliance with the finished toy.

EuPIA printing ink manufacturers recommend specific inks for toy manufacturing or packaging materials with an intended play value. They also provide specific declarations on the use and suitability of these inks, including information on further restricted elements such as copper, zinc, aluminium, and manganese.

Further sections of EN 71 (Parts 9 - 11), which address risks from organic chemicals, have not yet been adopted or revised by the European Commission. In any case, printing inks and ink films are not within the scope of these standards, as exposure to organic chemicals from coatings under 500 µm thickness is not considered relevant in EN 71 - Parts 9 - 11. The thickness of a printed ink film is typically below 50 µm. Consequently, information on organic chemicals in inks is not required by manufacturers or marketers of printed toys, and EuPIA members do not provide such data.

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