

Certificate

Food regulatory evaluation of ViskoTeepak's colored Wienie-Pak® cellulose casing

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| Customer: | ViskoTeepak Belgium NV 3920 Lommel Belgium |
| Order No: | PA-1543-21 |
| Samples: | Colored sausage casings, cellulose based, with colorants as given in Table 1 |
| Total pages of certificate: | 3 |
| Date of certificate: | 22.03.2022 |

ViskoTeepak's Wienie-Pak® casings are cellulose based casings. The casings shall be used at different processing and storage conditions including e.g. stuffing, reddening, drying smoking, cooking and ripening as described in detail in test reports PA/5311/20. The intended applications include the packaging of cheese, meat and sausage products (e.g. dry sausages).

Compliance of the cellulose casings with the regulatory safety requirements of Article 3 of the European Framework Regulation (EC) No 1935/2004 was investigated. For this purpose, ViskoTeepak disclosed the formulation of the Wienie-Pak® casings to Fraunhofer IVV. Additional information on the used colorants in the casings has been provided by the suppliers of the colorants.

Compliance of the colored Wienie-Pak® casings with regard to European and Swiss food regulatory requirements was investigated for representative or worst case samples (with respect to components of the colorants and their use levels). For this purpose, ViskoTeepak disclosed the formulation of the Wienie-Pak® casings to Fraunhofer IVV.

The following colorants were covered by the evaluation (see Table 1).

Table 1: Colorants of the investigated samples.

| ViskoTeepak color name | ViskoTeepak internal sample code | Sample no. of the representative sample investigated |
|------------------------|----------------------------------|--|
| Solid Black | 200 | 2 |
| Solid Blue | 15:3 | 3 |
| Smoke Dark | 200 | 6 |
| Smoke Gold | 20G | 7 |
| Green Window | 3W | 8 |
| Pink | 250 | 9 |
| Red | M-Red | 31 |
| White Stripes | WS 2022 | 32 |
| Black Stripes | 230 | - |
| Blue Stripes | 180 | - |

The sample materials to which this certificate relates to were investigated within Fraunhofer IVV order PA/5311/20, PA-1543-21, PA-1484-21 and PA-1028-22. In detail, the following parameters were evaluated:

- Determination of the specific migration of confidential components from two colored Wienie-Pak® sausage casings (Fraunhofer IVV test report PA-1484-21, dated 15.03.2022)
- Determination of the specific migration of primary aromatic amines from the colored Wienie-Pak® sausage casings (Fraunhofer IVV test report PA-1543-21 part 1, dated 18.03.2022)
- Investigation of the colored Wienie-Pak® sausage casings for volatile, semi-volatile and non-volatile components by non-target screening analysis (Fraunhofer IVV test report PA-1543-21 part 2, dated 18.03.2022)
- Determination of the specific migration of inorganic substances from the colored Wienie-Pak® sausage casings (Fraunhofer IVV test report PA-1028-22, dated 10.03.2022)
- Determination of the content of inorganic substances from the colored Wienie-Pak® sausage casings (Fraunhofer IVV test report PA-1127-21, dated 17.03.2021)

- Determination of colour release from colored Wienie-Pak® sausage casings (Fraunhofer IVV test report PA/5311/20, dated 17.03.2021)

Further substances have been evaluated prior to the analytical work by worst-case calculation, assuming a total transfer of the substances added.

Based on the performed non-target screening analyses by Headspace GC-FID/MS on the casing itself and GC-FID/MS and LC-MS on the dichloromethane and 95% ethanol extracts of the casing no indication for the presence of undesired or critical substances related to the used colorants was given. However, it should be noted that not all of these substances could be identified or that only a tentative identification proposal is available due to the low concentrations of these substances present in the extracts, which is a typical limitation of such non-target screening approaches (Fraunhofer IVV test report PA-1543-21, part 2). For the screening analyses representative samples (with respect to the composition of the colorants) were selected.

A specific migration analysis was performed for one confidential additive used in two colorants (Fraunhofer IVV test reports PA-1484-21), as well as for inorganic components present in the samples (Fraunhofer IVV test report PA-1028-21).

Furthermore, representative samples were investigated for the migration of primary aromatic amines under worst-case migration conditions (Fraunhofer IVV test reports PA-1543-21, part 1). Additional to the primary aromatic amines listed in the REACH regulation, the focus was placed on amines, which could be derived from the pigment structure and were probable to be contained in the pigment.

Additionally the color release of the non-white colored casings was determined (Fraunhofer IVV test report PA/5311/20). No color release could be observed.

In summary, based on the disclosed formulations, on the manufacturer's and pre-suppliers' regulatory statements of compliance and on the worst-case calculations using customer dosage information, as well as on the performed screening and migration analyses, it can be concluded that the migration of components originating from the investigated, printed Wienie-Pak® casings, as listed above, complies with the requirements of Article 3 of the EU Framework Regulation (EC) No 1935/2004 and of Article 49 of the Swiss Regulation 817.023.21 "Lebensmittel- und Gebrauchsgegenständeverordnung" (LVG; dated 01.12.2020) for the intended use as packaging of processed meat products (e.g. ham, salami, bacon, sausages) and natural cheeses.

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