

Certificate

Food regulatory evaluation of ViskoTeepak cellulose casings

Client: ViskoTeepak Belgium NV
BE-3920 Lommel

Order: PA/4465/12

Samples: ViskoTeepak's cellulose casing "ViskoNet"

Scope

ViskoTeepak's cellulose casing is a cellulose based casing with a netted structure. Thereby the net (cotton or polyester net) is glued onto the outside of the casing.

The cellulose casing is used after pre-treatment of soaking in water for 1 hour. The intended applications include meat and sausage products (e.g. dry sausages).

The conformity of the cellulose casing with Article 3 of the EU Framework Regulation (EC) No 1935/2004 was investigated.

The base film "Meat Cling II" was already evaluated in previous IVV orders (please refer to the order PA/4677/10).

For this purpose ViskoTeepak disclosed the formulation of the cellulose casing to Fraunhofer IVV.

Sample material

The cellulose casing "ViskoNet" is intended for the packaging of meat and sausage products.

The summary of the food regulatory assessment of the cellulose casing refers to the following Fraunhofer IVV test reports:

- Test report PA/4465/12 part 1 dated 29.4.2013 "Determination of the overall migration from cellulose casings"
- Test report PA/4465/12 part 2 dated 30.4.2013 "Determination of the heavy metals in a cellulose casing"
- Test report PA/4465/12 part 3 dated 29.4.2013 "Sensory testing"
- Test report PA/4465/12 part 4 dated 29.4.2013 "Determination of the migration potential and residual content of several additives"
- Test report PA/4465/12 part 5 dated 24.5.2013 "Screening analysis of the "ViskoNet" casing"

Food regulatory status of the used components

Based on ViskoTeepak's information on the formulation of the cellulose casing the food regulatory status of the used components was evaluated according to European requirements.

- Plastics Regulation (EU) No 10/2011 (last amendment by Regulation (EU) No 1183/2012) -Strictly speaking cellulose based casings are not covered by the Plastics Regulation (EU) No 10/2011. However this regulation may also be used for the assessment of other materials than plastics that are not yet regulated on EU level.
- Bfr Recommendation XXXVI "Paper and board for food contact" (as of 1.1.2012)
- Bfr Recommendation XXXVI/1 "Cooking papers, Hot Filter Papers and Filter Layers" (as of 1.1.2012)
- Bfr Recommendation XLIV. Artificial Sausage Casings (as of 1.1.2012)

Migration analyses:

The cellulose casing "ViskoNet" was investigated for the overall migration into 10 % ethanol by total immersion at the contact conditions 10 days at 40 °C according to the European Standard EN 1186-3. In addition, the overall migration was also determined into the food simulant 95 % ethanol (as alternative food simulant for olive oil) by total immersion at the contact conditions 24 hours at 40 °C according to the European Standard EN 1186-15 (Fraunhofer IVV test report PA/4465/12 part 1, dated 29.4.2013). The time and temperature conditions applied for the migration tests were determined based on the process cycles as delivered by ViskoTeepak.

In addition, the migration potential of several additives of the cellulose casing "ViskoNet" was analysed (Fraunhofer IVV test report PA/4465/12 part 4, dated 29.4.2013). Additionally, the specific migration of one anorganic component additive was investigated by ICP-MS (inductively coupled plasma mass spectrometry) according to DIN method 17294-2 (Fraunhofer IVV test report PA/4465/12 part 2, dated 30.4.2013). Furthermore the cellulose casing "ViskoNet" was investigated for possibly migrating components originating from the casing "ViskoNet" (base film, net and adhesive) by screening analyses. For this purpose the casing was investigated by headspace gas chromatography - flame ionisation detection / mass spectrometry (GC-FID/MS) and extracts of the casing were investigated by GC-FID/MS (Fraunhofer IVV test report PA/4465/12 part 5, dated 24.5.2013).

Furthermore, the cellulose casing "ViskoNet" was investigated for the content of the heavy metals lead, cadmium, chromium (IV) and mercury. The cellulose casing was solved with nitric acid by microwave decomposition and analysed by ICP-MS (inductively coupled plasma mass spectrometry) according to DIN method 17294-2 (Fraunhofer IVV test report PA/4465/12 part 2, dated 30.4.2013).

Additionally, sausages packed in the cellulose casing "ViskoNet" and in the base film (without net) were investigated for a change or deterioration of the organoleptic characteristics of the packed sausages. The sensory tests of the sausages were carried out according to DIN 10964 and DIN 10955 by a panel of seven trained testers (Fraunhofer IVV test report PA/4465/12 part 3 dated 29.4.2013).

Food regulatory assessment:

The overall migration limit is 10 mg/dm² contact surface according to Art. 12 of the Plastics Regulation (EU) No 10/2011 (last amendment by Regulation (EU) No 1183/2012).

After preceding soaking (in water for 1 hour), the investigated sample "ViskoNet" is in compliance with the overall migration limit for aqueous foods and for fatty foods at any long term storage at room temperature and below, including heating up to 70 °C for up to 2 hours, or heating up to 100 °C for up to 15 minutes.

The migration potential of several additives and the specific migration limit of one anorganic component additive were investigated. After preceding soaking (in water for 1 hour) migration of the investigated components complies with the respective restrictions according to the Plastics Regulation (EU) No 10/2011 for all types of food at all contact conditions (e.g. long term storage at room temperature and below, including heating up to 70 °C for up to 2 hours, or heating up to 100 °C for up to 15 minutes).

Based on the performed screening and specific migration analyses, the investigated cellulose casing "ViskoNet" complies with the safety requirements of Article 3 of the EU Framework Regulation (EC) No 1935/2004 with respect to the used base film, net and adhesive.

The investigated cellulose casings comply with the limit of 100 mg/kg for the sum of lead, cadmium, chromium(IV) and mercury according to the European Directive 94/62/EC (last amendment by Regulation (EC) No 219/2009) on packaging and packaging waste.

According to Article 3 of the EU Framework Regulation (EC) No 1935/2004 and according to § 31 of the German "Lebensmittel- und Futtermittelgesetzbuch" (LFGB) materials and articles in contact with food shall be manufactured so that, under normal or foreseeable conditions of use, they do not transfer their constituents to food in quantities which could bring about a deterioration in the organoleptic characteristics of the food.

Based on the performed sensory analysis, the investigated sausage sample packed in the cellulose casing "ViskoNet" is in compliance with the sensory requirements of the EU Framework Regulation (EC) No 1935/2004 and of § 31 LFGB.

Conclusion:

Based on the results of the migration and screening analyses as well as on the supplier information provided by the client ViskoTeepak, we come to the conclusion that the investigated cellulose casing "ViskoNet" under normal and foreseeable conditions of use, will not lead to the transfer of constituents to food in quantities which could endanger human health following the requirements of Article 3 (1a) of the EU Framework Regulation (EC) No 1935/2004.

Signatures

Fraunhofer Institut
Verfahrenstechnik
und Verpackung



Dr. Diana Kemmer
(Dep. Head of Migration Laboratory)

Freising, 4.6.2013



Maria Gierl
(Scientist)