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Food Processing Machinery
and Packaging Machinery

Two Methods for the Determination of Peroxide-residues in Empty Cups at the Filling Machine – Test procedures

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Two methods for the determination of peroxide-residues in empty cups at the filling machine – test procedures

For the simple determination of peroxide-residues in empty cups of aseptic filling machines for liquid food there are 2 methods, which can be carried out directly at the machine.

The tests should be made right next to the machine and you have to ensure that there is no or only few peroxide contamination of the environment.

With a conversion of the measured peroxide-residue to the complete filling amount of the packaging unit a specification of the H₂O₂-concentration relating to the complete volume is permitted.

At multi-line filling machines the test should be carried out on every line.

1. Test with test-rod *Merckoquant 10011*

Manufacturer: Fa. Merck
Supplier: Laboratory trade

Test procedure:

- Fill 10 ml of distilled water in every sealed cup by lifting the lid; shake the cup well afterwards
- Dip in the test-rod for 1 second and drain the rest of the water
- After 15 seconds compare the test-rod with the enclosed colour-range range-values: 0.5 / 2 / 5 / 10 and 25 ppm H₂O₂
- Specification of the value as ppm H₂O₂ in 10 ml solution

2. CHEMets ® Peroxid-Test K 5510

Manufacturer: USA
Supplier: Fa. Karmina GmbH, 42570 Heiligenhaus, Germany
or Fa. Oestreich Verfahrenstechnik, 50226 Frechen, Germany
Scope of supply: test basic-kit (K-5510), consisting of a colour-range from 0 – 1 ppm or 1 – 10 ppm, incl. measuring cylinder of 25 ml and the single-use ampullae

Test procedure:

- Fill 25 ml of distilled water in every sealed, empty cup by lifting the lid;
- Shake the cup well; afterwards pour the water into the measuring cylinder of the test kit
- Put the reaction-ampulla into one of the cavities in the bottom of the measuring cylinder and open the ampulla by a aside-movement; ampulla is now self-filling with the fluid
- Turn upside down the ampulla several times and clean the outside from remaining fluid
- Compare the ampulla immediately to the enclosed colour-range and read the value
Multiply the readed value with 2.5; Specification of the so calculated value as ppm H₂O₂ in 10 ml solution