COMPARATIVE PERFORMANCE TESTS IN THE LIGHT OF ECOLABELLING REQUIREMENTS
OVERVIEW

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INTRODUCTION - ABOUT ECOLABEL

- EU Ecolabel
  - Launched in 1992
  - EU members, also accepted in Norway, Iceland, Liechtenstein

- Nordic Ecolabel
  - Established 1989
  - the official Ecolabel of the Nordic countries

Consumers have a choice
### INTRODUCTION – WHY COMPARATIVE PERFORMANCE TESTS

- A lot of requirements/criteria to achieve the Ecolabel
  - Example for Cleaning Products:

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COMPARATIVE PERFORMANCE TESTS - HARD SURFACE CLEANERS

- All Purpose Cleaners / Floor Cleaners
- Kitchen Cleaners
- Glass Cleaners
- Bathroom / Sanitary Cleaners
- Toilet Cleaners
COMPARATIVE PERFORMANCE TESTS-
ALL PURPOSE CLEANERS / FLOOR CLEANERS

- EU-Ecolabel Criteria says about performance tests:
  - “For all-purpose cleaners, only fat-removing effects must be documented.“
  - “The cleaning ability must be equivalent to or better than that of a market-leading or generic reference product, approved by a competent body. “
  - “Tested in their pure form”

- Nordic Ecolabel says about performance tests:
  - Tested on its fat removing effects
  - The comparative product :recently purchased; a product intended for the same area of use; belongs to the same product category
  - “lowest recommended dose for the product and the recommended dose for the comparative product “
  - Also against Water
COMPARATIVE PERFORMANCE TESTS-
ALL PURPOSE CLEANERS / FLOOR CLEANERS

- EU-Ecolabel Criteria performance tests:
  - carried out in accordance to the “Recommendation For The Quality Assessment Of All Purpose Cleaners (version 10-2004)” issued by the IKW

- Nordic Ecolabel Criteria performance tests:
  - No official IKW-Method for diluted usage of products
  - Based on internal Method in accordance to IKW recommendation
COMPARATIVE PERFORMANCE TESTS- ALL PURPOSE CLEANERS / FLOOR CLEANERS

- EU-Ecolabel Criteria performance tests:
  - Soil: Peanut oil 75 %; Kaolin 23 %; Carbon black 2 %
    - Diluted with 80% of isopropanol and sprayed on white floor tiles
  - Soiled tiles are aged at 100°C for 24h in an oven
  - Stored for 24h at room temperature

- Nordic Ecolabel Criteria performance tests:
  - Soil: Aged sunflower oil, Humus, Carbon Black, Iron Oxide, Cement Silica and Clay
  - Soiled tiles are aged at room temperature for 24h
COMPARATIVE PERFORMANCE TESTS - ALL PURPOSE CLEANERS / FLOOR CLEANERS

- Cleaning Process – Test Conditions:
  - Equipment: Sheen Wet Abrasion Scrub Tester REF 903 PG
  - Visual Evaluation
EU-Ecolabel Criteria says about performance tests:
- “For all-purpose cleaners, only fat-removing effects must be documented.“
- “The cleaning ability must be equivalent to or better than that of a market-leading or generic reference product, approved by a competent body. “
- “Tested in their pure form”

Nordic Ecolabel says about performance tests:
- Tested on its fat removing effects
- The comparative product : recently purchased; a product intended for the same area of use; belongs to the same product category
- Ready to use products -> neat usage
- Also against Water
COMPARATIVE PERFORMANCE TESTS-KITCHEN CLEANERS

- EU-Ecolabel and Nordic Ecolabel Criteria performance tests:
- carried out in accordance to the “Recommendation For The Quality Assessment Of All Purpose Cleaners (version 10-2004)” issued by the IKW
- Same procedure as for APC EU-Ecolabel criteria
**COMPARATIVE PERFORMANCE TESTS - GLASS CLEANERS**

- **EU-Ecolabel Criteria** says about performance tests:
  - “For window cleaners, stripe-less drying must be documented. “
  - “The cleaning ability must be equivalent to or better than that of a market-leading or generic reference product, approved by a competent body. “

- **Nordic Ecolabel** says about performance tests:
  - “fat and Particulate matter“
  - The comparative product: recently purchased; a product intended for the same area of use; belongs to the same product category
  - Against Water
COMPARATIVE PERFORMANCE TESTS-GLASS CLEANERS

- EU-Ecolabel Criteria performance tests:
  - Streaks and drops formation
  - carried out in accordance to the “Recommendation For The Quality Assessment Of All Purpose Cleaners (version 10-2004)” issued by the IKW

- Nordic Ecolabel Criteria performance tests:
  - Cleaning performance
  - No official IKW-Method for determining the cleaning performance of glass cleaners
  - Based on internal Method
COMPARATIVE PERFORMANCE TESTS-
GLASS CLEANERS

- EU-Ecolabel Criteria performance tests:
  - Dried cloths are fastened on to the scrub tester
  - Impregnated with defined amount of cleaner
  - Sheen produces forward and backward movements
  - After five wipes per tile, drying of the tiles and visual evaluation
COMPARATIVE PERFORMANCE TESTS - GLASS CLEANERS

- Streaks and Drops formation Test Conditions:
  - Equipment: Sheen Wet Abrasion Scrub Tester REF 903 PG
  - Visual Evaluation:
    - **Streaks formation (streaks intensity and density)**
      - 0 = no streaks formation
      - 1 = a few streaks formation
      - 2 = average streaks formation
      - 3 = strong streaks formation
      - 4 = very strong streaks formation
    - **Drops formation (number, size and intensity of drops)**
      - 0 = no drops formation
      - 1 = a few drops formation
      - 2 = average drops formation
      - 3 = strong drops formation
      - 4 = very strong drops formation
Nordic Ecolabel Criteria performance tests:

- Soil: Soil Nicotine Condensate, Vegetable Oil, Blue Colorant (for visualisation)
- Cigarettes are smoked under defined conditions
- Nicotine condensate extracted
- Aged vegetable oil and nicotine condensate are mixed together
- Sprayed onto the tile, aged under defined conditions
- Cleaning starts on Sheen Scrub Tester
- Visual Evaluation
COMPARATIVE PERFORMANCE TESTS - GLASS CLEANERS

- Cleaning Process – Test Conditions:
  - Equipment: Sheen Wet Abrasion Scrub Tester REF 903 PG
COMPARATIVE PERFORMANCE TESTS-
SANITARY CLEANERS, BATHROOM
CLEANERS, TOILET CLEANERS

- EU-Ecolabel Criteria says about performance tests:
  - “For bathroom cleaners, both limesoap and limescale removal shall be documented.”
  - “For acidic toilet cleaners, only limescale removal shall be documented.“
  - “The cleaning ability must be equivalent to or better than that of the generic reference detergent” -> IKW Reference Cleaner with pH 3.5 for bathroom cleaners; pH 2.2 for toilet cleaners

- Nordic Ecolabel says about performance tests:
  - Lime soap and limescale
  - The comparative product :recently purchased; a product intended for the same area of use; belongs to the same product category
  - Also against Water
COMPARATIVE PERFORMANCE TESTS - SANITARY CLEANERS, BATHROOM CLEANERS, TOILET CLEANERS

- EU-Ecolabel and Nordic Ecolabel Criteria about performance tests:

- Carried out in accordance to the “Recommendation For The Quality Assessment of Bathroom Cleaners (version 2002)” issued by the IKW

- Carried out in accordance to the “Recommendation For The Quality Assessment of Acidic Toilet Cleaners (version 1999)” issued by the IKW
COMPARATIVE PERFORMANCE TESTS-
SANITARY CLEANERS, BATHROOM 
CLEANERS, TOILET CLEANERS

- EU-Ecolabel and Nordic Ecolabel Criteria
  performance tests: -> Lime Scale Removal Test
  Marble Tiles are rinsed off under running water, dried 
  and weighted
  A safety glass box is prepared, filled with defined 
  amount of cleaner
  The whole marble tile is immersed into the cleaner:
  - Bathroom cleaner for 10 minutes (horizontal 
    conditions)
  - Toilet cleaners for 10 seconds. After soaking time, 
    the tile is placed in a vertical stand for 10 minutes 
    (vertical conditions)
- Tiles are brushed, dried and weighted again
- Lime scale removal: determining by difference in the 
  weight
**COMPARATIVE PERFORMANCE TESTS - SANITARY CLEANERS, BATHROOM CLEANERS, TOILET CLEANERS**

- EU-Ecolabel and Nordic Ecolabel Criteria performance tests:
  - Soap Scum Removal
  - Soil: a calcium stearate suspension of composition:
    - Ethanol, calcium stearate, water, pigment
  - Compounds are mixed and applied on tiles via airbrush
  - Dried at room temperature
  - Dried in oven at 180°C
  - Undiluted cleaner is dropped on tile
  - Exposure time up to 30 minutes
  - Stopped until cleaning performance >90%
  - Visual evaluation

Matthäus Ryl, 06.05.2014, SEPAWA Nordic 2014
COMPARATIVE PERFORMANCE TESTS-HAND DISHWASHING DETERGENTS

- EU-Ecolabel Criteria says about performance tests:
  - “The cleaning ability and cleaning capacity must be tested”
  - The cleaning ability and cleaning capacity must be equivalent to or better than that of the generic reference detergent (…)“ - IKW Reference Hand Dishwashing Liquid

- Nordic Ecolabel says about performance tests:
  - “The test must be capable of generating results that provide a measure of capacity, i.e. how long the dishwashing detergent lasts”
  - “The test must be capable of generating results that provide a measure of cleaning ability.”
  - Also against Water
COMPARATIVE PERFORMANCE TESTS-
HAND DISHWASHING DETERGENTS

- EU-Ecolabel Criteria performance tests:
- Carried out in accordance to the “Recommendation For The Quality Assessment of Hand Dishwashing Detergents (version 2002)” issued by the IKW

- Nordic Ecolabel says about performance tests:
- Carried out in accordance to the “Recommendation For The Quality Assessment of Hand Dishwashing Detergents (version 2002)” issued by the IKW
- Plus visual evaluation
COMPARATIVE PERFORMANCE TESTS-HAND DISHWASHING DETERGENTS

- EU-Ecolabel and Nordic Ecolabel Criteria performance tests:
  - Plates are soiled with soil
    - Two types of soil: Starch based Soil and Fat based soil
  - Washing Solution prepared:
- Cleaning Procedure Starts:
  - Plates are immersed into solution
  - 20 circular movements on the front side of the plate
  - 10 circular movements on the back side of the plate
  - Until foam layer does not close anymore
- Visual Evaluation of plates (only for Nordic Ecolabel):
  - Rating scale 5= completely clean; 1= fatty coating more than 200mm²
COMPARATIVE PERFORMANCE TESTS-AUTOMATIC DISHWASHING DETERGENTS

- EU-Ecolabel Criteria says about performance tests:
  - “The product shall have a satisfactory washing performance at the recommended dosage according to the standard test developed by IKW”
  - “the result shall be better than or identical to the reference detergent”
  - Reference detergent IEC 436, Type B
- Nordic Ecolabel says about performance tests:
  - Standard test for dishwasher detergents developed by IKW (German Industrial Association of the Manufacturers of Toiletries and Detergents). The product must meet the Pass/Fail level requirements, see Appendix 7.
COMPARATIVE PERFORMANCE TESTS-AUTOMATIC DISHWASHING DETERGENTS

- EU-Ecolabel and Nordic Ecolabel Criteria performance tests:
- “Methods for Ascertaining the Cleaning Performance of Dishwasher Detergents (Part B, updated 2005)“ issued by the IKW
COMPARATIVE PERFORMANCE TESTS-
AUTOMATIC DISHWASHING DETERGENTS

- EU-Ecolabel and Nordic Ecolabel Criteria performance tests:
  soil classes of the IKW Test Method (bleachable, amylase specific, protease specific)

Programm: 55°C Universal Plus at 9 ± 1 °d

Soils:
Visual Grading:
  - Dried starch soil (amylase specific): Oat Flakes
  - Burned Protein Soil (protease specific): Minced Meat 120°C
  - Burned Protein Soil (Protease-Specific): Minced Meat 200°C
  - Burned Protein Soil (Protease- and alkali-Specific): Milk
  - Bleachable soil: Tea

Gravimetric:
  - Dried Soil (Protease-Specific): Egg/Milk
  - Dried Soil (Protease-Specific): Egg Yolk
  - Dried Starch Soil (Amylase-Specific): Mix Starch
EU-Ecolabel Criteria says about performance tests:
- “The product shall comply with the performance requirements as specified for the relevant product type according to the EU Ecolabel laundry detergents performance test’s latest version“

Nordic Ecolabel says about performance tests:
- Appendix 6 of Version 7.6; 15 December 2011 – 31 December 2017
COMPARATIVE PERFORMANCE TESTS - LAUNDRY DETERGENTS

- Stain Removal Test
  - Measurement of stains before and after wash
- Degree of Whiteness (for heavy duty detergents)
  - Measurement of Y-Value before and after wash
- Colour Maintainance
  - Measurement before and after wash
THANK YOU VERY MUCH FOR YOUR ATTENTION!