

# Framework for performance testing for dishwasher detergents

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### 0. Background

This framework serves as a proof to show compliance with the criterion "fitness for use" of the Commission Decision xxx/EC establishing EU Ecolabel criteria for dishwasher detergents.

The test is for products that fall under the scope of the product group "dishwasher detergents", this means any detergent for dishwashers or rinse aid falling under the scope of Regulation (EC) No 648/2004 on detergents which are intended to be marketed and used exclusively in household dishwashers and in automatic dishwashers for professional use, the size and usage of which is similar to that of household dishwashers.

The intention is that the product shows compliance with the criterion through any of both tests: the most updated version of the IKW or the most updated standard EN 50242/IEC 60436 modified according to point 1 of this document.

### 1. Modifications to EN 50242/IEC 60436

If EN 50242/ IEC 60436 is used the following modifications shall apply:

- The tests shall be carried out at  $50^{\circ}\text{C} \pm 2^{\circ}\text{C}$  (or at a lower temperature if the detergent claims to be efficient at a temperature below  $50^{\circ}\text{C}$ ) with cold pre-wash without detergent. The reference product shall be always tested at  $55^{\circ}\text{C}$ , regardless the claims of the testing product.
- The machine used in the test shall be connected to cold water and must hold 12 place settings, width of 60 cm and a cleaning performance (oven drying method) in average values of  $3,55 \pm 0,20$  as described in Annex N of the EN50242/ IEC 60436
- The machine's drying programme shall be used, but only the cleanliness of the dishes shall be assessed.
- A weak acidic rinsing agent in accordance with the standard (formula III) shall be used
- The rinsing aid dosage shall be a setting at level 3. When applying for rinse aids in combination with dishwasher detergents, the rinse aid shall be used in the test instead of the reference rinse aid.
- The dosage of dishwasher detergent shall be as recommended by the manufacturer

- Three attempts shall be carried out at water hardness in accordance with the standard EN 50242/IEC 60436. The water hardness of sump water in the 2 heated rinses shall be  $\leq 0,5$  mmol/l\*.
- An attempt consists of 5 washes where the result is read after the fifth wash without the dishes being cleaned between the washes
- The result shall be better than or equal to the reference detergent after the fifth wash
- Recipe for the reference detergent (Detergent B IEC 436) and rinsing agent (formula III), can be found in Annex D in the standard EN 50242/IEC 60436. The quantities (dosage used) shall be as recommended by the manufacturer of the reference product, but shall not be more than the limits included in the section 5.7 of the standard EN 50242/IEC 60436 for the detergent and section 5.8 of the standard EN 50242/IEC 60436 for the rinse aid agent

If rinse aid and salt functions are a part of a multifunctional product the effect of the claimed functions must be documented by test.

\* When the machine is run on reference programme or equivalent with a clean load installed and no detergent, the values specified in this criterion shall be achieved. The hardness is to be within the prescribed range.

## 2. IKW test

The test performance should be carried out in accordance with the most updated version of the IKW test available at:

[http://www.ikw.org/fileadmin/content/downloads/Haushaltspflege/HP\\_DishwasherA\\_B\\_e.pdf](http://www.ikw.org/fileadmin/content/downloads/Haushaltspflege/HP_DishwasherA_B_e.pdf)

## 3. Results and reporting

*If the modified standard EN 5024 /IEC 60436 has been followed, the applicant shall provide the following information:*

- Information on the recommended dosage and the lowest recommended cleaning temperature at which the product claims to be effective
- The product's ability to remove soiling from the dishes, cutlery or kitchenware and to dry the dishes
- Information about the reference product against which the test product has been tested: dosage used, temperature, date of purchase and date of testing
- Description of the standard conditions used to perform the testing
- Results of the tests performed and statistical analysis, if done.

*If the most updated version of the IKW test performance protocol has been followed, the applicant shall provide the following information:*

- Information on the recommended dosage and the lowest recommended cleaning temperature at which the product claims to be effective
- Description of the type of spots and preparation procedure
- The product's ability to remove soiling and dry the dishes. The effectiveness of other products the detergent shall be used with (e.g. rinse aids) shall be reported

- Information about the reference product against which the test product has been tested: lowest recommended dosage or dosage used, temperature, date of purchase and date of testing
- Description of the conditions used to perform the testing
- Results of the tests performed and statistical analysis, if done