

Section Cleaning and Maintenance Products*

IKW Recommendations for the Quality Assessment of the Product Performance of Oven Cleaners

Quality recommendations of Industrieverband Körperpflege- und Waschmittel e.V. (IKW – The German Cosmetic, Toiletry, Perfumery and Detergent Association), Section Cleaning and Maintenance Products

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■ Foreword

IKW member companies share with the general public their expert knowledge of the products they manufacture. This is done in the form of quality recommendations intended to enable a qualified testing of products by the companies themselves or by consumers and test institutes. Quality standards are laid down that need to be fulfilled by the concerned products in order to meet expectations of consumers and manufacturers.

Companies working within the framework of IKW want optimal quality standards for their products. Their aim is a consistent orientation to sustainability as a guiding principle, preparing their companies to successfully face the future in a constantly changing world. This commitment to sustainability as a guiding principle builds on experiences expressed in numerous exemplary initiatives. Taking as starting points the Declaration of Rio 1992, »92+10« of Johannesburg and the Agenda 21, sustainability is understood as a balanced linking of economic, social and ecological aspects under the following definition: »Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs«.

With this in mind »Recommendations for quality assessment« want to encourage company staff to act responsibly vis-à-vis humans and the environment in product development and manufacture.

They also help fulfil consumer expectations in terms of efficacy, safety and environmentally sound products.

Quality standards determine which qualities are relevant to a given product and to what extent these qualities must be present. It should be noted that every finished product has a certain spectrum of quality characteristics largely determined by consumer expectations so that in each product some characteristics are deliberately emphasized while others seem less important. Moreover the desired combination of product properties is subject to constant change, depending on the latest technical possibilities and new consumer habits. Quality recommendations must not impair such developments. Consequently for each product only one overall result is valid to determine whether the product comes up to quality recommendations or not. Emphasis on isolated test criteria is not admissible and may be misleading.

1. Definition

Oven cleaners are alkaline products to remove persistent types of soiling and incrustations in ovens. They are available as spray products (aerosols, trigger products) or gels.

2. Aim

These recommendations for the quality assessment of oven cleaners are intended to enable a qualified testing by the

manufacturers themselves and by independent test institutes, meeting the following criteria:

- Easy implementation, with no need for sophisticated equipment
- Relevance to practice
- Reproducibility
- Differentiability

To be tested are both the cleaning performance and the compatibility with materials of surfaces to be cleaned.

3. Cleaning test: Removal of soiling

3.1 Preparation of test soiling

3.1.1 Types of soiling

Gravy sauce and a syrup mixture are used as test soiling.

Gravy sauce

Knorr Delikatess Bratensoße
Bestfoods Markenartikel GmbH,
Heilbronn, Germany

Produce by heating a 33.3% suspension with Knorr Delikatess Bratensoße in demineralised water. Boil up the mixture for ca. 10 minutes to ca. 80°C while stirring.

Syrup mixture

Stir 20 g of sugar into 100 g of raspberry syrup in a beaker (fruit content at least 35%, e.g. from the company F. Göbber KG, Eystrup, Germany). For this purpose,

the mixture is slightly heated up so that the sugar dissolves more easily. As the next step, stir in 20 g of flour (type 405). The thus obtained mixture can be kept for maximally 3 months at room temperature in a closed screw cap jar. Stir the mixture again prior to use.

3.1.2 Application, drying

Wipe commercial grade baking sheets made of refined steel with isopropyl alcohol and dry them before applying the respective test soiling. Then spread the prepared test soiling from top to bottom on the baking sheets (layer thickness 200 µm), using an applicator frame. As an alternative, 15 g of the respective test soiling can be applied with a brush.

Age the soiled baking sheets, lying horizontally, in a drying cabinet. Ageing takes place at a temperature of 200°C over 2.5 hours in the drying cabinet.

You can clean the soiled baking sheets after a cooling-down period of at least 15 hours.

3.2 Implementation

Shake aerosol or trigger products briefly before use. Apply cleaners evenly onto the soiling, following the manufacturer's instructions. Determine the applied quantity of product by way of difference weighing, and record it.

Store each baking sheet horizontally during the leave-on time and at the use temperature as prescribed by the manufacturer. After that time, initially rinse off the product with running cold water and make a visual assessment. Using a soft coarse-pored sponge, then find out

if the soiling can be further peeled off at the places where the product was applied. Make another assessment of the baking sheets.

If applicable, record any further observations - such as e.g. spontaneous coming off of the soiling or changes in the colour of the soiling.

3.3 Assessment scale

Make a visual assessment of the cleaning performance on the basis of a 5-grade scale system, with the possibility of in-between grades.

- 1 = Soiling removal < 10 % =
No cleaning performance
- 2 = Soiling removal 10 – 40 % =
Low cleaning performance
- 3 = Soiling removal 41 – 60 % =
Medium cleaning performance
- 4 = Soiling removal 61 – 90 % =
Good (evident) cleaning performance
- 5 = Soiling removal > 90 % =
Excellent cleaning performance

4. Testing of compatibility with materials

4.1 Description of method

To test the compatibility of products with materials, apply 0.1 g of the test product directly on the previously cleaned and dried test surfaces (see below), and then store the test surfaces according

to the leave-on time recommended by the manufacturer at room temperature (22°C) without covering them.

Unless this is precluded by the manufacturer of the respective product, cleaners are applied undiluted onto the surfaces. Tests are made on the following surfaces:

Varnish surface, silver-metallic

Marble, polished side

Aluminium sheet, silver

Kitchen surface, white

Kitchen surface, beige

Enamelled surface, white

4.2 Assessment

After the leave-on time, wash off the test products from the test surfaces with a moist sponge. After drying, make a visual assessment of the test surfaces according to the following system:

- : No change to surface
- + : Slight change to surface
- ++ : Evident change to surface
- +++ : Marked change to surface

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