



**Fraunhofer**

**TESTED<sup>®</sup>  
DEVICE**

ebm-papst Mulfingen  
Impeller Radical PPGF40  
**Report No. EB 1703-895**

DUPLICATE

Statement of  
Qualification

Outgassing Behavior  
Ammoniac

# Statement of Qualification

**Customer** ebm-papst Mulfingen GmbH & Co. KG  
 Bachmühle 2  
 74673 Mulfingen  
 Germany

**Component tested**

Category: Materials  
 Subcategory: Plastics  
 Product name: Impeller Radical PPGF40 Size 400 \* -1-3233  
 (manufacturing date: 4/2016; color: black; serial number: 40310-1-3233)

**Emission chamber measurements with gas impaction in combination with ion chromatography (IC)**

Standards/Guidelines: ISO 14644-8; VDI 2083 Part 17; VDI 2452 (Impinger); ISO 14911 (Cations)  
 The norms stated generally refer to the version valid at the time of the tests.

Testing equipment:
 

- Measuring station:.....Metrohm Professional IC 850
- Sampling chamber:.....Markes International µCTE

Sample storage: Age of sample: .....8 months

Test procedure parameters: Outgassing test temperatures: .....23°C and 90°C

## Test result / Classification

The outgassing behavior of the material sample from the Impeller Radical PPGF40 Size 400 \* -1-3233 at the stated temperatures was investigated according to VDI 2083 Part 17. Based on the outgassing rates determined for the specific surfaces, the following material classification was made for the corresponding substance group:

Substance Group (x)	SER <sup>1)</sup> 23 °C [g/m <sup>2</sup> s]	SER <sup>1)</sup> 90 °C [g/m <sup>2</sup> s]	ISO-ACC <sub>m</sub> class (x) based on 23 °C
Ammoniac (NH <sub>3</sub> )	2.3 x 10 <sup>-9</sup>	5.0 x 10 <sup>-8</sup>	-8.6

<sup>1)</sup> SER: Surface Specific Emission Rate

The detection limit at the time of the test was ISO-ACC<sub>m</sub> class = -9.2 (NH<sub>3</sub>). The ISO-ACC<sub>m</sub> class (x) was assigned for the named substance group at the test temperature of 23°C (room temperature).

The measuring devices used for the qualification tests are calibrated at regular intervals; their results can be traced back to national and international standards. In cases where no national standards exist, the test procedure implemented complies with the technical regulations and norms applicable at the time of the test. The relevant documentation can be viewed on request at any time.

For further information about the test environment and parameters, please refer to the Fraunhofer IPA test report.

Fraunhofer Institute for Manufacturing Engineering and Automation IPA

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on behalf of   
 Frank Bürger, Project Manager Fraunhofer IPA