



Fraunhofer

TESTED[®] DEVICE

Ziehl-Abegg SE
HF C27021 14 black
Report No. ZI 2507-1655

Statement of
Qualification

Single product
Outgassing Behavior
Ammonia

Statement of Qualification · Single product

Customer	Ziehl-Abegg SE Heinz-Ziehl-Strasse Künzelsau Germany
Tested product	
Category:	Materials
Subcategory:	Plastics
Product name:	HF C27021 14 black (manufacturing date: 5/2025; color: black; article number: 00412286)

Emission chamber measurements with impingement in combination with ion chromatography (IC)

Standards/guidelines:	ISO 14644-8, -15; VDI 2083 Part 17 The norms stated generally refer to the version valid at the time of the tests.
Test equipment:	<ul style="list-style-type: none">Measuring station:.....Metrohm Professional IC 850Sampling chamber:.....Markes International µCTE
Sample storage:	<ul style="list-style-type: none">Pre-conditioning:<ul style="list-style-type: none">Cleanroom Air Cleanliness Class (according to ISO 14644-1):.....ISO 1Airflow velocity:.....0.45 m/sAirflow type:.....vertical laminar flowTemperature:22 °C ± 0.5 °CRelative humidity:45 % ± 5 %Purified air:VOC-filtered
Test procedure parameters:	<ul style="list-style-type: none">Volume of micro emission chamber:45 cm³Preconditioning time:> 5 minTemperature during emission sampling:23 °CDuration of emission sampling:.....24 hSampling flow rate:100 mL/min

Test result / Classification

The outgassing behavior of HF C27021 14 black the stated temperature was investigated according to ISO 14644-15 and VDI 2083 Part 17. Based on the outgassing rates determined for the specific surfaces, the following material classification was made for the corresponding Contaminant Category:

Contaminant Category (x)	SER _a ¹⁾ 23 °C [g/m²s]	ISO-ACC _m Class (x)
Ammonia (NH ₃)	< 2.9 x 10 ⁻⁹	< -8.5

¹⁾The emission rate is calculated using the detected concentration based on the external standard calibration, the analyzed sample surface area or number of samples, the volume of the impingement solution and the sampling duration.

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.

Detailed information and parameters of the test environment can be found in the Fraunhofer IPA test report.



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on behalf of 
Dr.-Ing. Frank Bürger, head of business unit Testing and Certification

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