

IPA

Cleanroom (atmospheric)

valid until: November 26, 2030

Fraunhofer

TESTED[®]
DEVICE

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

Single product Outgassing Behavior Inorganic Acids

This document only applies to the named product in its original state and is valid for a period of 5 years from the current date the document was issued. The document can be verified under www.tested-device.com.

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

Qualification Certificate

This is to certify that the product mentioned above, provided by
Ziehl-Abegg SE
Künzelsau, Germany

has been awarded a Fraunhofer certificate TESTED DEVICE bearing the report number ZI 2507-1655.

The outgassing behavior of the HF C27021 14 black (color: black) at 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/m ² s]	ISO-ACC _m Class (x)
HF	< 2.9 x 10 ⁻⁹	< -8.5
HCl	< 2.9 x 10 ⁻⁹	< -8.5
HBr	< 2.9 x 10 ⁻⁹	< -8.5
HNO ₃	< 2.9 x 10 ⁻⁹	< -8.5
H ₃ PO ₄	< 2.9 x 10 ⁻⁹	< -8.5
H ₂ SO ₄	< 2.9 x 10 ⁻⁹	< -8.5

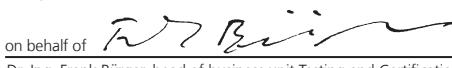
¹⁾The emission rate is calculated using the detected concentration based on the external standard calibration, the analyzed sample surface area or number of samples, the volume of the impingement solution and the sampling duration.the impingement solution and the sampling duration

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Stuttgart, May 25, 2020
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Stuttgart, November 26, 2025
Place, current date

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



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