Main Topics

Aerosols & Particles

- environmental relevance
- occupational safety
- particle synthesis

Air Quality & Gas Treatment

- filtration and sorption
- process development
- CFD simulations

Circular Economy & Water Technology

- mechanical & thermal processes
- reactive & oxidative processes
- process development

Analysis & Measurement Techniques

- trace analysis
- development of instruments
- process digitalisation

forschen.
vernetzen.
anwenden.

forschen.
vernetzen.
anwenden.

Compressed Air Quality Measurements

ISO 8573

Institut für Umwelt & Energie, Technik & Analytik e. V. (IUTA)
Bliersheimer Straße 58 - 60
47229 Duisburg, Germany

Department of Filtration & Aerosol Research

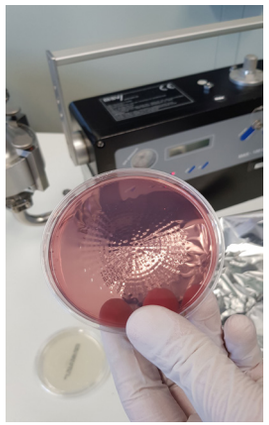
Contact:
Dipl.-Kfm. (FH) Oliver Hesse
Phone: +49 (0)2065 418 - 275
Dr. rer. nat. Matthias Wittmar
Phone: +49 (0)2065 418 - 424

Email: filtration@iuta.de

www.iuta.de

forschen.
vernetzen.
anwenden.

Compressed Air Quality Measurements - ISO 8573



Test according to ISO 8573-7

Test according to ISO 8573-2, -3, -4, -5

Measurement of contaminant and classification of purity

- Purity classification of compressed air (ISO 8573-1)
- Oil aerosol content (ISO 8573-2*)
- Measurement of humidity (ISO 8573-3*)
- Particle content (ISO 8573-4*)
- Oil vapor and gaseous contaminants (ISO 8573-5*, ISO 8573-6)
- Viable microbiological contaminants (ISO 8573-7*)
- Organic solvents (ISO 8573-5*)
- GC and GC-MS analysis of contaminants (ISO 8573-2*, ISO 8573-5)
- Qualitative and quantitative analysis of contaminants

Purity classes according to ISO 8573-1:2010

Purity class	Maximum number of particles per m³		
	0.1 µm < d ≤ 0.5 µm	0.5 µm < d ≤ 1.0 µm	1.0 µm < d ≤ 5.0 µm
0	As specified by the equipment user or supplier and more stringent than class 1		
1	≤ 20,000	≤ 400	≤ 10
2	≤ 400,000	≤ 6,000	≤ 100
3	Not specified	≤ 90,000	≤ 1,000
4	Not specified	Not specified	≤ 10,000
5	Not specified	Not specified	≤ 100,000

Table 1: Class definition for particle content in compressed air according to ISO 8573-1

Pressure dew point	
Purity class	**Maximum pressure dew point [°C]**
0	As specified by the equipment user or supplier and more stringent than class 1
1	≤ -70
2	≤ -40
3	≤ -20
4	≤ +3
5	≤ +7
6	≤ +10

Table 1: Class definition for water content in compressed air according to ISO 8573-1 at reference conditions

Concentration of total oil	
Purity class	**Maximum concentration of total oil [mg/m³]**
0	As specified by the equipment user or supplier and more stringent than class 1
1	≤ 0.01
2	≤ 0.1
3	≤ 1
4	≤ 5
X	> 5

Table 1: Class definition for total oil content (summary of aerosol and vapour) in compressed air according to ISO 8573-1 at reference conditions

Exemplary Results

IUTA e. V. certifies XYZ Ltd. a compressed air purity class according to ISO 8573-1:2010 of

2 : 2 : 1

(particles : humidity : oil)

Parameters marked with * are accredited according to DIN EN ISO/IES 17025:2018. The accreditation is only valid for the scope specified in the annex of accreditation certificate no. D-PL-19759-01-03 by the Deutsche Akkreditierungsstelle GmbH (DAkkS) from 30.11.2022 (updated certificate pending).