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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 13277.5-2019

**Compressed air -- Part 5: Test methods for oil vapour and
organic solvent content**

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Foreword

GB/T 13277 "Compressed Air" has been or is planned to release the following sections.

- Part 1. Contaminant purification level;
- Part 2. Method for measuring suspended oil content;
- Part 3. Humidity measurement method;
- Part 4. Method for measuring solid particles;
- Part 5. Methods for measuring oil vapors and organic solvents;
- Part 6. Method for measuring gaseous pollutant content;
- Part 7. Method for measuring active microbial content;
- Part 8. Method for measuring the mass concentration of solid particles;
- Part 9. Method for measuring liquid water content.

This part is the fifth part of GB/T 13277.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This section uses the redrafting method to modify the use of ISO 8573-5:2001

"Compressed air Part 5. Oil vapor and organic solvent measurement method".

The technical differences between this part and ISO 8573-5:2001 and their reasons are as follows.

--- According to the provisions of GB/T 1.1-2009, adjust the description of the "subject content" in the scope of Chapter 1, "gas chromatography test

The method does not consider the source of compressed air, etc., and the explanatory text is placed in Chapter 5;

---About the normative reference documents, this part has made technical adjustments to

adapt to China's technical conditions, adjustments

The situation is reflected in Chapter 2, "Regulatory Citations", and the specific adjustments are as follows.

- * Replace ISO 3857-1 with GB/T 4975 modified to international standards (see Chapter 3);

- * Replace ISO 8573-1:2001 with GB/T 13277.1-2008 modified to international standards (see Chapters 3 and 4)

And 10.1);

- * Replaced ISO 8573-2:2007 with GB/T 13277.2-2015 modified to international standards (see 6.3.4, Chapter 7 and

A.1.4);

- * Replace ISO 8573-3 with GB/T 13277.3 modified to international standards (see 6.3.2);

- * Replace ISO 5598 with GB/T 17446, which is equivalent to the international standard (see Chapter 3).

--- Change the "reference condition" of 8.1 to "standard status" in order to be consistent with the provisions of other parts of GB/T 13277.

This section also made the following editorial changes.

--- Appendix B added the guiding phrase "Dalton's law of partial pressure (B.1)" in order to comply with the principles of China's standard preparation;

--- Removed references in ISO 8573-5:2001;

--- Pressure unit replaces "bar" with "MPa" and performs numerical conversion.

This part was proposed by the China Machinery Industry Federation.

This part is under the jurisdiction of the National Compressor Standardization Technical Committee (SAC/TC145).

This section drafted by. Hefei General Machinery Research Institute Co., Ltd., Guangzhou Han Yue Purification Technology Co., Ltd., Guangdong Taian Yi Qiaoeng

Source Equipment Co., Ltd., Shanghai Snow Health Technology Co., Ltd., Hefei General Environmental Control Technology Co., Ltd., Ningbo Bows Energy

Source Equipment Co., Ltd.

1 Scope

This part of GB/T 13277 specifies gas chromatography and chemical indicator tube methods for the detection of oil vapor content in compressed air.

The requirements for sampling, measurement, assessment, uncertainty and test report of oil vapor are determined.

This section applies to the measurement of the content of oil vapor (hydrocarbons of 6 or more carbon atoms) in compressed air.

Note. Light hydrocarbons of not more than 5 carbon atoms are measured by reference to ISO 8573-6 as gaseous pollutants.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 4975 Positive displacement terminology (GB/T 4975-2018, ISO 3857-1. 1977, ISO 3857-2. 1977,

MOD)

GB/T 13277.1-2008 compressed air Part 1. Contaminant purification grade (ISO 8573-1.2001, MOD)

GB/T 13277.2-2015 Part 2. Methods for measuring the content of suspended oils (ISO 8573-2.2007, MOD)

GB/T 13277.3 Compressed air Part 3. Methods for measuring humidity (GB/T 13277.3-2015, ISO 8573-3.1999,

MOD)

GB/T 17446 fluid drive system and component vocabulary (GB/T 17446-2012, ISO 5598.2008, IDT)

ISO 2591-1 screening test Part 1. Screening test method for wire woven mesh and metal perforated plates (Testsie-

ving-Part 1.Methodsusingtestsievesofwovenwireclothandperforatedmetalplate)

ISO 9486 Workplace Air Chlorinated Hydrocarbon Vapor Test Carbon Tube/Solvent Desorption/Gas Chromatography (Workplaceair-De-

Terminatedofvaporouchlorinatedhydrocarbons-Charcoaltube/solventdesorption/gaschroma to-

Graphicmethod)

ISO 9487 Workplace Air Aromatic Hydrocarbon Vapor Test Carbon Tube/Solvent

Desorption/Gas Chromatography (Workplaceair-De-
Diversiof vaporous aromatic hydrocarbons-Charcoal tube/solvent desorption/gas chromatographic method)

3 Terms and definitions

The following terms and definitions as defined in GB/T 4975, GB/T 17446 and GB/T 13277.1 apply to this document.

3.1

Mesh mesh

Specifications that characterize the number and size of meshes can be used to determine the size of the solid particles passing through the screen.

3.2

Oil oil

A mixture of hydrocarbons consisting of 6 or more carbon atoms (C₆).