

ICS 13.220.20

CCS C82



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

GB/T 18294.6-2012

**Technical identification methods for fire - Part 6: Infrared
spectroscopy analysis**

火灾技术鉴定方法 第6部分：红外光谱法

Issued on: December 31, 2012

Implemented on: June 1, 2013

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China;
Standardization Administration of China**

Table of Contents

- 1 Scope
- 2 Normative references
- 3 Terms and Definitions
- 5 Test conditions
- 5.1 Condition setting

Foreword

GB/T 18294 "Fire technical appraisal method" consists of the following components.

- Part 1. UV spectroscopy;
- Part 2. thin layer chromatography;
- Part 3. gas chromatography;
- Part 4. High performance liquid chromatography;
- Part 5. gas chromatography - mass spectrometry;
- Part 6. Infrared Spectroscopy. This section GB/T 18294 "Fire technical appraisal methods" Part 6. Rules in this section in accordance with GB/T 1.1-2009 given draft. This section presents the People's Republic of China Ministry of Public Security. This part of the National Technical Committee of Standardization Technical Committee Fire Fire Investigation (SAC/TC113/SC11) centralized. This section is drafted. Tianjin Fire Research Institute of Ministry of Public Security. The main drafters of this section. Tian Guihua, Lu Zhi Bao, Deng Zhenyu, Liang Guofu, Fan Zilin. This section first release. Fire technical appraisal methods Part 6. Infrared Spectroscopy

1 Scope

GB/T 18294.6-2012 is the Chinese national standard on technical identification methods for fire - part 6: infrared spectroscopy analysis, in the field of environment and health protection, safety. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 31 December 2012 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 June 2013. Classification: ICS 13.220.20, CCS C82. This page is published from the official record of the standard held by the Chinese standards

administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This section GB/T 18294 specifies the terms and definitions in the technical appraisal of fire infrared spectroscopy, principles, test conditions, test method. This section applies to the fire scene identification of organic residues.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated edition applies to this article Member. For undated references, the latest edition (including any amendments) applies to this document. TESTING - Part 1

GB/T 19267.1 criminal trace evidence. infrared absorption spectroscopy

GB/T 20162 fire technical identification evidence Extraction

3 Terms and Definitions

GB/T 19267.1 and GB/T 20162 defined and the following terms and definitions apply to the GB/T 18294 this document.

3.1 Characteristic frequency region characteristic frequency region Fire scene organic residue having a spectrum at $4000\text{cm}^{-1} \sim 1250\text{cm}^{-1}$ region.

3.2 Fingerprint region fingerprint region Fire scene organic residue having is within $1250\text{cm}^{-1} \sim 400\text{cm}^{-1}$ spectral region. Principle

4 When the infrared light is irradiated to the fire scene organic residues, the infrared light is absorbed by a certain frequency of the vibration frequency of the same bond yield Health and energy transition. Different structures composed of different substances, absorption of infrared light is different, based on the structure of this feature can be of unknown composition of Identification.

5.1 Condition setting

5.1.1 Relative humidity below 50%.

5.1.2 Instrument parameters. Spectral range $4000\text{cm}^{-1} \sim 400\text{cm}^{-1}$, the number of scanning 32, scan interval 2cm^{-1} , 4cm^{-1} resolution (NOTE. gas samples with a resolution of 2cm^{-1}).