

ISO 20463:2018 (E)

Rubber and rubber products — Determination of combustion energy and carbon dioxide emission from biobased and non-biobased materials

Contents

| | |
|---------|---|
| | Foreword |
| | Introduction |
| 1 | Scope |
| 2 | Normative references |
| 3 | Terms and definitions |
| 4 | Principle |
| 5 | Sampling |
| 6 | Determination of the combustion energy of biobased and non-biobased materials |
| 6.1 | General |
| 6.2 | Reagents and materials |
| 6.3 | Apparatus |
| 6.4 | Procedure |
| 6.5 | Calculation method of biobased and non-biobased combustion energy |
| 7 | Determination of the amount of carbon dioxide emission from biobased and non-biobased materials |
| 7.1 | General |
| 7.2 | Apparatus |
| 7.3 | Reagents |
| 7.4 | Procedure |
| 7.4.1 | Verification of the measurement |
| 7.4.2 | Transfer of the combustion gas to a gas sampling bag from bomb |
| 7.4.3 | Measurement of carbon dioxide concentration by GC |
| 7.4.3.1 | GC measurement conditions |
| 7.4.3.2 | Calibration curve for carbon dioxide |
| 7.4.4 | Determination of the total volume of the combustion gas |
| 7.4.5 | Measurement of the room temperature and the atmospheric pressure |
| 7.4.6 | Calculation of the amount of carbon dioxide emission |
| 7.5 | Calculation of biobased and non-biobased carbon dioxide emission |
| 8 | Precision |
| 9 | Test report |
| Annex A | (informative) Calculation of net calorific value for combustion energy |
| A.1 | General |
| A.2 | Procedure |
| Annex B | (informative) Examples of determination of combustion energy of biobased and non-biobased materials |
| Annex C | (normative) Saturated water vapour pressure |
| Annex D | (informative) Determination of the amount of carbon dioxide emission from biobased and non-biobased materials |

Annex E (informative) Precision

- E.1 General**
- E.2 Precision results from the ITP**
 - E.2.1 Programme details**
 - E.2.2 Precision results**

Page count: 20