

ISO 16312-1:2016-11 (E)

Guidance for assessing the validity of physical fire models for obtaining fire effluent toxicity data for fire hazard and risk assessment - Part 1: Criteria

| Contents | | Page |
|-----------------------|---|-------------|
| Foreword | | iv |
| Introduction | | v |
| 1 | Scope | 1 |
| 2 | Normative references | 1 |
| 3 | Terms and definitions | 1 |
| 4 | General principles | 1 |
| 4.1 | Physical fire model | 1 |
| 4.2 | Model validity | 1 |
| 4.3 | Test specimens | 2 |
| 4.4 | Combustion conditions | 2 |
| 4.5 | Effluent characterization | 2 |
| 5 | Significance and use | 2 |
| 6 | The ideal fire effluent toxicity test method | 3 |
| 6.1 | Fire stages | 3 |
| 6.2 | Applicability | 3 |
| 6.3 | Apparatus independence | 3 |
| 6.4 | Operational efficiency | 3 |
| 6.5 | Data generated | 3 |
| 6.6 | Accuracy | 4 |
| 6.7 | Repeatability and reproducibility | 4 |
| 7 | Characteristics of fire stages | 4 |
| 8 | Characterization of physical fire models | 4 |
| 8.1 | Thermal environment in the test specimen | 4 |
| 8.1.1 | General | 4 |
| 8.1.2 | Smouldering | 5 |
| 8.1.3 | Pyrolysis | 5 |
| 8.1.4 | Flaming | 5 |
| 8.2 | Oxygen availability | 5 |
| 8.2.1 | General | 5 |
| 8.2.2 | Fuel/air equivalence ratio | 5 |
| 8.2.3 | Combustion efficiency | 6 |
| 8.3 | Test specimen | 6 |
| 8.4 | Yields of combustion products | 6 |
| 8.5 | Analytical instrumentation | 6 |
| 8.6 | Use of test animals | 6 |
| 9 | Physical fire model accuracy | 7 |
| Annex A (informative) | Characteristics affecting combustion product yields | 9 |
| Bibliography | | 11 |