

ISO 15202-2:2020-05 (E)

Workplace air - Determination of metals and metalloids in airborne particulate matter by inductively coupled plasma atomic emission spectrometry - Part 2: Sample preparation

| Contents | Page |
|--|-------------|
| Foreword..... | iv |
| Introduction..... | v |
| 1 Scope..... | 1 |
| 2 Normative references..... | 2 |
| 3 Terms and definitions..... | 2 |
| 4 Principle..... | 3 |
| 5 Requirements..... | 3 |
| 6 Reactions..... | 3 |
| 7 Reagents..... | 3 |
| 8 Laboratory apparatus..... | 4 |
| 9 Procedure..... | 4 |
| 9.1 Soluble metal and metalloid compounds..... | 4 |
| 9.2 Total metals and metalloids and their compounds..... | 5 |
| 9.3 Mixed exposure..... | 5 |
| 10 Special cases..... | 5 |
| 10.1 Action to be taken if there is doubt about the effectiveness of the selected sample dissolution method..... | 5 |
| 10.2 Action to be taken when particles have become dislodged from the filter during transportation..... | 6 |
| 10.3 Action to be taken regarding sampler wall deposits..... | 6 |
| 11 Laboratory records..... | 6 |
| Annex A (informative) Safety precautions to be observed when using hydrofluoric and perchloric acids..... | 7 |
| Annex B (normative) Sample dissolution method for soluble metal and metalloid compounds..... | 8 |
| Annex C (normative) Sample dissolution using nitric acid and hydrochloric acid on a hotplate..... | 14 |
| Annex D (normative) Sample dissolution using hydrofluoric and nitric acids and ultrasonic agitation..... | 18 |
| Annex E (normative) Sample dissolution using sulfuric acid and hydrogen peroxide on a hotplate..... | 21 |
| Annex F (normative) Sample dissolution using nitric acid and perchloric acid on a hotplate..... | 25 |
| Annex G (normative) Sample dissolution in a closed vessel microwave dissolution system..... | 29 |
| Annex H (normative) Sample dissolution at 95 °C using a hot block..... | 35 |
| Annex I (normative) Action to be taken when there is visible, undissolved, particulate material after sample dissolution..... | 38 |
| Annex J (informative) Sampler wall deposits..... | 44 |
| Bibliography..... | 47 |