

Soil quality — Determination of total cyanide and easily released cyanide — Continuous-flow analysis method

ICS 13.080.10

National foreword

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Summary of pages

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Soil quality — Determination of total cyanide and easily released cyanide — Continuous-flow analysis method

*Qualité du sol — Détermination des cyanures totaux et des cyanures
aisément libérables — Méthode d'analyse en flux continu*



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Foreword

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ISO 17380 was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 3, *Chemical methods and soil characteristics*.

Introduction

Cyanides can be present in soil as cyanide ions and as complex cyanides. They can be determined as easily released cyanide or as total cyanide. Complex cyanide can be calculated by subtracting the easily liberated cyanide result from the total cyanide result. This International Standard specifies the determination of easily released cyanide, complex cyanides and total cyanide.

Methods using flow analysis automate wet chemical procedures and are particularly suitable for the processing of many analytes in water or soil extracts in large sample series at a high analysis frequency. The continuous-flow analysis (CFA) method uses an automated dosage of the sample into a flow system (manifold) where the analytes in the sample reacts with the reagent solution on their way through the manifold. The sample preparation may be integrated in the manifold. The reaction product is measured in a photometric detector (e.g. flow-cell photometer).

A manual method for the photometric and volumetric determination of easily liberated cyanide, complex cyanide and total cyanide in soil samples is described in ISO 11262. It is important to note that the total cyanide results in soil samples as described in ISO 11262 can show slight differences from this International Standard. These differences are not considered to be very significant for this analysis. However, the easily released cyanide test is empirical and the result is defined by the method. The easily released cyanide test described in this International Standard (using an initial distillation pH of 3,8) varies from the easily released cyanide test in ISO 11262 (using a distillation pH of 4,0). Some difference in results can be expected between these two empirical methods (see 4.2).

