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## **Workplace air — Guidance for the measurement of respirable crystalline silica**

*Air des lieux de travail — Lignes directrices pour le mesurage de la fraction alvéolaire de la silice cristalline*



Reference number  
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## Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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This document was prepared by Technical Committee ISO/TC 146, *Air quality*, Subcommittee SC 2, *Workplace atmospheres*.

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## Introduction

Respirable crystalline silica (RCS) is a hazard to the health of workers in many industries through exposure by inhalation. Industrial hygienists and other public health professionals need to determine the effectiveness of measures taken to control workers' exposure. Taking samples of air during a work activity and then measuring the amount of RCS present is often done to assess the exposure of an individual, the effectiveness of their respiratory protection or effectiveness of other controls. Studies have found that procedures to ensure the quality of RCS measurements must be followed to ensure results are fit-for-purpose. This is especially true if it is desired to accurately measure RCS at levels below applicable occupational exposure limit values where greater measurement variability can be observed. Reasonable measurement uncertainty can be achieved with proper controls to limit bias and measurement variability and the usefulness of RCS measurements to make informed decisions to protect worker health can be upheld. This document is intended to be of benefit to those involved in the determination of RCS in the workplace, e.g. agencies concerned with health and safety at work; industrial hygienists; safety and health professionals; analytical laboratories; industrial users and their workers. Readers should be aware that in some countries there are legal requirements for the quality assurance of these measurements.