

Inspection of Bulk Material to Identify Crystalline Silica Exposure Risk

X-Ray Diffraction (XRD)

(Internal Standard Method)

In-house procedure 'Crystalline Silica Content in Bulk Material'

Product: Arts Cut Zero

Report Number: R33642

Report Date: 28 April 2025

Total Number of Pages 2

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to ISO 9001:2015

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reports and certificates

Issued by

Safe Environments Pty Limited
Unit 6, 7 Inglewood Place
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Prepared for

AC Stone Group
63 Fairford Road
Padstow NSW 2211

Approved by


Ratan Venkatesan
Authorised Signatory

28 April 2025

Inspection Certificate No. R33642

Crystalline Silica Content in Bulk Material

The crystalline silica content of provided samples is characterised using x-ray diffraction (XRD) and an in-house procedure using the internal standard method that compares the relative intensity ratio of known crystalline structures. This report does not address respirable size fraction where further particle size analysis and determining of CS within the respirable fraction is required to evaluate risk and labelling requirements of materials relating to Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

The purpose of this report is to provide information to those who may use, process, or transform this product as a first step to screen and identify the hazard of Crystalline Silica (CS). The results are intended to be used as a screening test by a competent person or accredited inspection body to determine whether a CS risk is present with regard to EN 689 *Workplace exposure - Measurement of exposure by inhalation to chemical agents - Strategy for testing compliance with occupational exposure limit values*. EN 689 Clause 5.1.2 outlines this as an essential first step to the identification of the potential for hazardous exposure.

While the reported percent weight fraction is useful in knowing the amount of silica present in absolute terms, it does not account for the particle and grain sizes of silica that may be created by different work practices or the particles' interaction with the human respiratory system that may lead to potential adverse health outcomes. It is recommended that this test report be read in conjunction with EN 689 and the relevant legislative instruments relating to Respirable Crystalline Silica (RCS).

Requested by:	AC Stone Group
Client Address:	63 Fairford Road Padstow NSW 2211
Date sample received:	17 April 2025
Product Manufacturer:	Supplied by AC Stone Group
Product Description:	Arts Cut Zero
Test conducted according to:	XRD internal standard method
Sampling Procedures:	Performed by client and tested as received.
Location:	6/7 Inglewood Place, Norwest NSW 2153
XRD instrument:	Malvern Panalytical Aeris (array detector) DY0937
Internal standard:	Al ₂ O ₃ Corundum (≈50:50 ratio)
Date of analysis:	22-23 April 2025
Conducted by:	Nathan Phanith

Crystalline Species	Weight/Weight (w/w) Concentration (%)
Quartz	0.4
Cristobalite	Not Detected

Total Crystalline Silica	0.4*
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* While the reported concentration of crystalline silica is below the limit of quantification, it is the best estimate based on available data

The expanded uncertainty (U_{95}) at the 95% level of confidence with a coverage factor (k) of 2 has been estimated to be 3 % with a limit of detection of 0.1 % and limit of quantification of 1%; sampling uncertainty has not been included. The expanded uncertainty should be considered when interpreting results or assessing conformity.

Results relate only to items inspected; the sample storage period is one-week from date of report issue.