

Mr Keith MacNair
Duncryne Ltd
91 Hyndland Street
Hyndland,
Glasgow
G11 5PU



06/08/2014

Dear Mr MacNair,

RE. Analysis of Econicboard for Crystalline Silica



ACS Physical Risk Control Ltd was approached by yourself to undertake the analysis of one of your products (Econicboard) for crystalline silica, a common constituent of similar construction material.

Substance Toxicology

Crystalline silica is a Silicon dioxide (SiO_2) based mineral commonly found in igneous rock, such as quartz and, although less abundant, cristobalite and tridymite. According to the HSE's INDG463 *Control of exposure to Silica Dust*, some material commonly found on construction sites, such as sandstone and brick, may contain up to 90% and 30% crystalline silica respectively. Once material containing crystalline silica is cut or abraded, it may release dust which can be inhaled by people in the vicinity. The smallest fractions of crystalline silica, known as respirable crystalline silica (RCS), can be inhaled and deposited in the alveoli of the lungs where it can cause silicosis, chronic obstructive pulmonary disease (COPD) and lung cancer. The HSE report that 600 deaths a year can be attributed to exposure to RCS, with 450 of these having previously worked in the construction sector.



Methodology

To undertake this analysis, ASC Physical Risk Control Ltd required representative samples (2no.) of the Econicboard. The samples were then sent to IOM Consulting Ltd (Edinburgh) to be subject to x-ray diffraction (XRD) in order to quantify the levels of crystalline silica (expressed as quartz and cristobalite).

Analytical Findings

The following conclusions were gained from the analysis of the Econicboard:

- 1. The analysis of the Econicboard concluded that both samples contained crystalline silica below the limit of analytical detection (0.3%), expressed as quartz and cristobalite.**



Summary

Sampling and analysis has shown that crystalline silica (expressed as quartz and cristobalite) was reported as being below the limit of analytical detection of 0.3%. Although no scientific analysis of materials can state that crystalline silica is entirely absent (due to the limits of quantification), it does suggest that levels of crystalline silica, if present, are extremely low.

As previously discussed, although crystalline silica **may** not be present in significant levels to cause a risk of associated illnesses if the Econicboard is cut or abraded, other substances contained within have the capacity to cause irritation, skin dryness (Magnesium chloride) and sensitisation (soft wood dust). It is a requirement under the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulations to ensure that anyone using the substance is adequately informed of the hazards it presents and recommended controls on exposure. One of the ways this is ensured is through the issue of Material Safety Data Sheets (MSDS) with the product. It is imperative that these MSDS are kept up to date and accurately quantify the risks and recommended controls for the use of Econicboard.

Should you require any further information, please do not hesitate to contact me.

Yours sincerely,

Cameron McAuley
MSc, BSc (Hons.), MIIRSM, MREHIS, GradCIEH

Consultant in Health and Safety

Appendix 1: IOM Analysis Report



CERTIFICATE OF ANALYSIS

ANALYSIS REQUESTED BY: ACS Physical Risk Control
Unit 14
Claremont Centre
Durham Street
Glasgow
G41 1BS

CONTRACT NO: 39898

PROJECT NO: 610

DATE OF ISSUE: 01.08.14

DATE SAMPLES RECEIVED: 28.07.14

DATE SAMPLES ANALYSED: 30.07-01.08.14

SAMPLES: Bulk board samples

NO. OF SAMPLES: Two

ANALYSIS REQUESTED: Crystalline Silica

METHOD: Portions of each bulk sample were finely ground to create samples of uniform particle size. These were scanned qualitatively using routine X-ray diffraction techniques. The resultant diffraction patterns were then compared with standard reference materials and search-match indices.

This method is an in-house method documented in IOM instruction manual number 2 (IM2).

Quantification of any crystalline silica detected in the samples is carried out using an in-house method based on;

Chung (1974). Quantitative Interpretation of X-ray Diffraction patterns of Mixtures. III Simultaneous Determination of a set of reference Intensities. Sherwin-Williams Research Centre, Chicago, Illinois.

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IOM CONSULTING LIMITED, registered in Scotland No. SC205670



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RESULTS:

Sample No.	Quartz %	Cristobalite %
Sample 1	<0.3	<0.3
Sample 2	<0.3	<0.3

Our detection limit for quartz and cristobalite in bulk materials by XRD is 0.3%.

COMMENTS:

IOM Consulting cannot accept responsibility for samples that have been incorrectly collected or despatched by external clients.

Any opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

AUTHORISED BY:

S Clark
Mineralogy Section Manager