



SILICERAM

Health and productivity

STUDIES AIMED AT ASSISTING LEGISLATION AND ENCOURAGING CONTINUAL
IMPROVEMENT STRATEGIES IN THE FIELD OF RESPIRABLE CRYSTALLINE SILICA

A European Project supported within the Sixth Framework Programme for Research and Technological Development



Context and potential impacts



The **traditional ceramics** industry is divided into several **subsectors** : tiles, tableware, sanitary ware, refractory, bricks and roofing tiles. In order to manufacture these products the ceramic industry often **uses powdered crystalline silica**. For many years it has been recognized that inhalation of Respirable Crystalline Silica (RCS) can **lead to silicosis**, which ultimately leads to ill-health through breathing difficulties and even death.

Since the 1930^s sensible abatement practices have been developed to virtually eradicate the problem of silicosis.

At present different **EU states have different limits for RCS**. Within Europe the Scientific Committee on Occupational Exposure Limits is working towards **identifying a common EU position on mg/m³ levels**. One of the difficulties associated with setting common exposure limits for workers is the fact that **different forms of crystalline silica** appear to pose **different threats**. A new input to the debate has been the decision by the

International Agency on Research in Cancer (IARC) in 1997 to classify RCS as a category 1 carcinogen.

Whilst striving for lower and lower mg/m³ limits is to be applauded, there is a potential danger that companies using RCS (especially SMEs) will be faced with extortionate associated costs (e.g. capital equipment costs, in-house administration costs, testing costs required to demonstrate compliance etc...)

This could drive some companies to ignore the legislation and so create a rise in the number of silicosis cases. Against the above background, the overall aim of this project is to **provide legislators with useful data for defining RCS in air limits**.

Setting a single low limit to encourage continual improvement, but allowing concessions based on proven reduced risks associated with certain RCS forms is seen as a possible way forward.

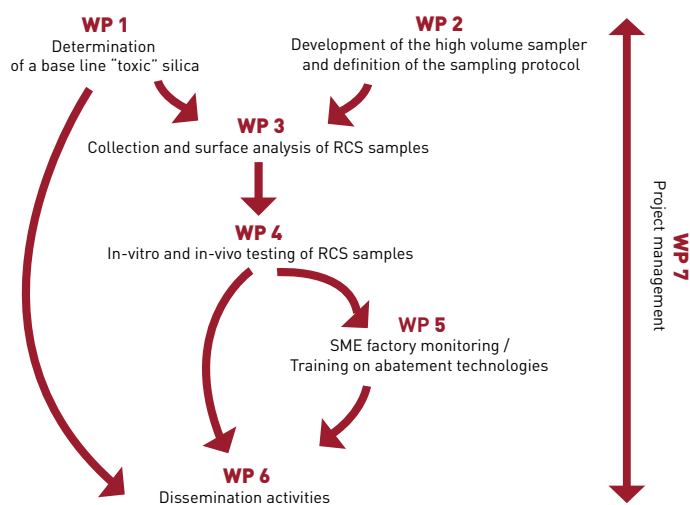
The project focuses on different industries of the ceramic sector : tiles, tableware, sanitary ware, refractory, bricks and roofing tiles.

Project objectives

- ▶ To investigate the legislative trends regarding a common EU position for RCS exposure limit
- ▶ To increase understanding of how the chemistry, size and surface properties of different RCS forms affects their toxicity
- ▶ To identify potential and practical ways to render RCS safer
- ▶ To investigate novel techniques for airborne RCS particles capture prior to analysis:
 - High-volume sampling apparatus for RTDs' use
 - Wide Range Aerosol Sampler (WRAS) for SMEs' use



Work Package figures



Project partner roles

- IAGs :

To disseminate the knowledge on legislative and health aspects to the core SMEs and to their members

- RTDs :

To give training on state-of-the-art sampling and viable abatement technologies to the SMEs

- SMEs :

To check their compliance with the legislative limits for RCS by acquiring the sampling knowledge and legislative information

To be well-informed of the health risks specific to their factory

To improve the situation by acquiring knowledge on correction and prevention means.



Consortium

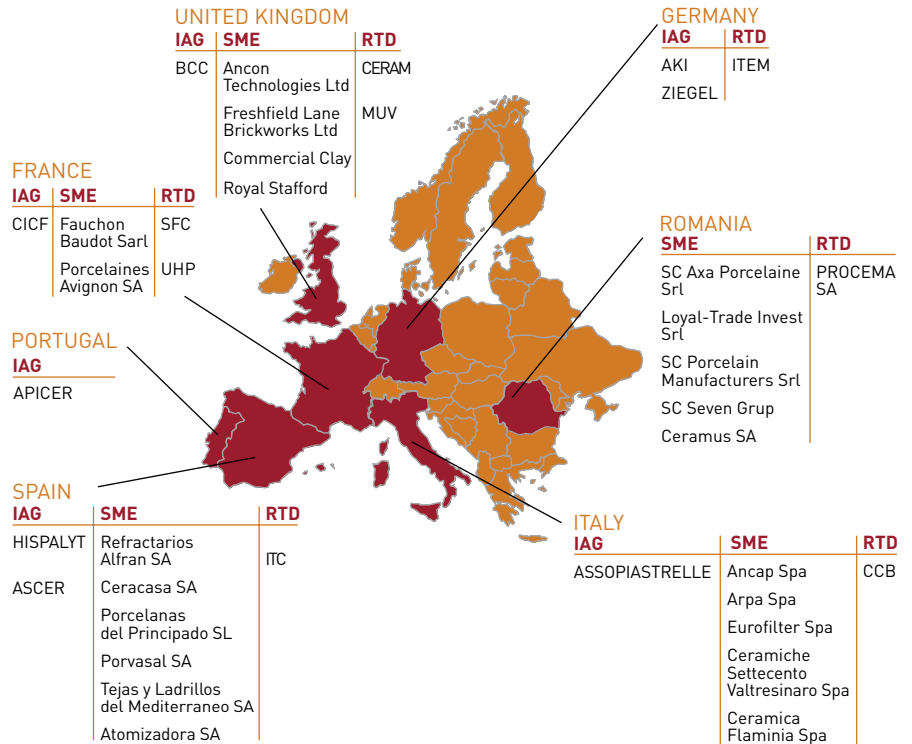
8 national Industrial Associations /Groupings IAGs :

BCC (UK), CICF (F), ASSOPIASTRELLE (I), HISPALYT (ES), ASCER (ES), APICER (P), AKI and ZIEGEL (D). Most of the associations are members of the European Federation of Ceramic Industry, Cérame-unie.

22 SME manufacturers of ceramics products established in the major European ceramic countries (France, Italy, Spain, Romania, United Kingdom). The industries represented are e.g. tiles, refractory materials, bricks, sanitary ware and table ware industries.

8 research organisations RTDs gathering competencies in ceramics:

CERAM (UK), Centro Ceramica di Bologna CCB (I), Instituto de Tecnología Cerámica ITC (ES), Société Française de Céramique SFC (F), PROCEMA SA Institute (RO); **in sampling technology** : Middlesex University MUV (UK); **in toxicology** : Fraunhofer ITEM (D) and UHP Nancy (F).



Acknowledgement

Supported by the European Commission through the Sixth Framework Programme for Research and Technological Development with up to 1 469 kEUR (out of a total budget of 2 213 kEUR), the SILICERAM project addresses the activity area "Horizontal Research Activities involving SMEs - Collective Research".

It has been running since the 1st of October 2004 and will last 36 months.



HORIZONTAL ACTIVITIES INVOLVING SMEs

A European Collective Research project supported through the Sixth Framework Programme for Research and Technological Development

Project Coordinator :

CERAM : Mr. Phil JACKSON, +44 1782 764 253 - phil.jackson@ceram.com

EC Project Officer:

DG RTD, Unit M4, Research & SMEs : Mr. Yves MAISONNRY, +32 2 29 85 724
yves.maisonny@cec.eu.int

with the support of :

ALMA Consulting Group : Ms. Jetta KERANEN, +33 4 72 35 80 30 - jkeranen@almacg.com
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