November 2010 / update April 2016

SASFORREACH Consortium

SIEF Information Letter 2
Synthetic Amorphous Calcium Silicate (CS)
Substance Identification & Sameness

Dear SIEF member

In this letter the Consortium would like to inform you in detail about the Substance Identification & Sameness for

Synthetic Amorphous Calcium Silicate (CS), EC # 215-710-8, CAS # 1344-95-2

Substance Name:

- **Silicic acid, calcium salt**

Synthetic Amorphous Calcium Silicate (CS), EC # 215-710-8, CAS # 1344-95-2 is a **UVCB substance**, with a purity of ≥ 96 w%

For this registration, the definition of Synthetic amorphous Calcium Silicate (CS) covers only products from precipitation processes, i.e. precipitation of an alkaline water glass solution with a Calcium Salt and the hydrothermal treatment of synthetic amorphous silica with calcium hydroxide yielding a completely amorphous product.
No other type of Calcium Silicate manufactured by different processes is supported by the Joint Submission of the SASFORREACH Consortium.

Table 1: Impurities

Impurities	Typical concentration	Remarks
sodium chloride	<= 2%	CAS No. 7647-14-5
aluminium oxide	< = 0.6%	CAS No. 1344-28-1
diiron trioxide	< = 800 ppm	CAS No. 1309-37-1

Identification:

Silicic acid, calcium salt (CS) is predominantly characterised through the following methods of identification in IUCLID 5:

- Amorphous structure: X-ray diffraction (XRD)

  X-ray diffraction diagrams of CS using CuKα radiation with λ = 0.1542 nm, show only a broad halo, revealing an X-ray amorphous structure. The detection limit for crystallinity by X-ray is in the order of 0.3% by weight (ECETOC 2006).
- Infrared spectroscopy (IR)
- nuclear magnetic resonance spectroscopy (NMR)

With kind regards

SASFORREACH Consortium representing Synthetic Amorphous Calcium Silicate (CS),

Patrick Wellmann

knoell Germany GmbH, Leverkusen, Germany