

Cement¹, cement clinker and REACH

Introduction

The REACH regulation came into force on 1 June 2007. 'REACH' stands for – *Registration, Evaluation, Authorisation (and Restriction) of Chemicals* - and it implements a uniform legal system, effective for all chemicals inside the European Community (EEA). This system is intended to enhance the safe use of chemicals in all types of application by providing appropriate health, safety and environmental information and communicating it to relevant stakeholders.

The REACH Regulation does not, however, mention the term *chemicals* in its text and, hence, there is no definition. REACH does, though, address: *substances, preparations and articles*, all of which are defined in the Regulation and according to its Article 1, REACH principally addresses the *manufacture, import, placing on the market and use* of substances on their own and in preparations and articles. Consequently, REACH will achieve its aims by imposing a series of inter-related obligations on manufacturers (or importers) for submission of a range of, essentially, self-assessed information on the substances that they manufacture (or import) into the EEA.

How are Portland cement, and its precursor, (Portland) cement clinker, affected by REACH? This Fact Sheet describes the official position so that all stakeholders are brought up-to-date but, in particular, that professional downstream users can be assured that cement, as an 'input' to their operations, is REACH-compliant and will continue to be supplied.

Is cement a substance, a preparation or an article under REACH?

To a large extent, the identity of a chemical under REACH is a matter for a manufacturer (or importer) to decide, guided by the definitions in the Regulation and their expert knowledge of the product. In the case of cement, cement is clearly a **preparation** because it is an example of "*a mixture (or solution) composed of two or more substances*" in conformity to the regulatory definition in Article 3.2. Preparations are not subject to registration (i.e. formalised supply of a dossier of information) under REACH.

CEMENT is a PREPARATION under REACH

One of these "*two or more substances*" is always (Portland) cement clinker, the basic constituent of all Portland cements. A second substance would be 'gypsum' used for regulating cement setting time. A third would be the chemical reducing agent added to control the content of water soluble chromium (VI) in compliance with a regulatory limit but there are others depending on cement type.

Cement clinker, REACH and Registration

Cement clinker is a substance under REACH because it conforms to the regulatory definition, given in Article 3.1 as:

"substance: means a chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition".

CEMENT CLINKER is a SUBSTANCE under REACH

Substances generally have to be registered under REACH when manufactured/imported in quantities above 1 tonne but cement clinker is in a special category. In accordance with Annex V of the Regulation, it is **officially exempted** from the general obligation to register substances with the European Chemicals Agency (ECHA – the 'Agency').

CEMENT CLINKER is EXEMPTED FROM REGISTRATION under REACH

¹ Any cement based on Portland cement clinker

This exemption has been granted by the European Institutions on the grounds that the hazards/risks posed by cement/cement clinker are, after 180 years of world-wide manufacture, so well known that it does not need to be registered with the Agency. There are, however, some health and safety related obligations that do apply to both cement and cement clinker for the benefit of professional downstream users and the wider public.

Safety data sheets (SDS), classification & labelling of cement and cement clinker

SDS

Under REACH, there are requirements for communicating information along the supply chain and in the case of cement and cement clinker, these take the form of:

- health and safety information communicated upstream (to suppliers) and downstream (to customers), that is 'professional users', by means of safety data sheets (SDS);
- classification and labelling information for cement and cement clinker and, in the specific case of cement clinker, the notification of the classification and labelling information to the Agency before 1 December 2010.

Safety data sheets are provided by BCA Member Companies free of charge to professional users in the official language of the country in which they are marketed at first delivery. In accordance with the requirements, these SDS will be updated if any new information becomes available that affects risk management measures (RMM) or hazards.

Classification & labelling

Classification is the process that determines the physico-chemical, human health and environmental hazards of a chemical. In the case of cement clinker as a substance, a self-classification as 'irritant' (property H4) has been carried out in accordance with Directive 67/548/EEC. Cement is similarly classified as irritant in accordance with Directive 1999/45/EC. Classification is followed by labelling.

In a labelling assessment, the identified hazards are converted into corresponding labelling elements (warning symbols, risk phrases and safety phrases). These labelling elements are then displayed on the label of the product with relevant information. This has now been done in the case of cement and cement clinker in accordance with the current legislation and the labelling on bags and/or delivery documents is compliant. However, the current system will be replaced in the near future by a regulation which implements the United Nations Globally Harmonised System (GHS) for classifying and labelling chemicals. When this occurs, the classification and labelling of cement and cement clinker will be modified in accordance with the relevant timetables to remain in compliance.

Does the cement manufacturer have to do anything else under REACH?

Yes. As a downstream user of other manufacturers' substances ('inputs'), the cement manufacturer has to check that each substance he uses has been appropriately pre-registered/registered, or if not registered, is generically or specifically exempted. This has been done for the full range of input substances, covering:

- waste-derived fuels;
- coal, coke, petcoke, crude oil, natural gas etc;
- raw feed minerals;
- chemical composition adjusters and process chemicals;
- natural gypsum and by-product gypsum;
- chromium (VI) reducing agents;
- secondary constituents such as fly ash, blastfurnace slag, silica fume and limestone.

In particular, in cases where an input substance has met the criteria for classification as 'dangerous' in accordance with Directive 67/548/EEC and is present in quantities above the threshold limit of 1% by mass, BCA's Member Companies:

- have identified the use of the substance to the supplier so that the supplier can recommend how to control exposure via appropriate risk management measures and conditions of use (within an 'exposure scenario');
- have taken receipt of SDS for appropriate input substances, and;
- will, when the position becomes clearer, extend relevant SDS by adding exposure scenarios for input substances classified as 'dangerous' that are used in the manufacture of cement and are present in quantities above the threshold limit of 1% by mass.

Where can I find out more?

For product-specific information, contact your supplier/manufacturer directly.

For generic information and other Information Sheets, contact: M G Taylor at BCA, Tel: 01276 608716, mtaylor@bca.org.uk or visit www.cementindustry.co.uk

Further reading

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) establishing a European Chemicals Agency amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

Council Directive of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances (67/548/EEC)

Directive of the European Parliament and of the Council of 31 May 1999 concerning the approximation of the laws, regulations and administrative procedures of the Member States relating to the classification, packaging and labelling of dangerous preparations (1999/45/EC)

Useful websites

http://ec.europa.eu/environment/chemicals/reach/reach_intro.htm

<http://echa.europa.eu/>

<http://www.hse.gov.uk/reach/resources.htm>

<http://www.defra.gov.uk/environment/chemicals/reach/>

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