



Use of additives under BCS

Additive use in anaerobic digestion

Additives are single compounds or compound mixtures added on a low percentage (w/v or v/v) basis, usually to provide benefit or product stability. In anaerobic digestion (AD), additives can be added either routinely or intermittently pre-digestion or directly within the digester(s). The additive should provide clear benefit to the health of the digester (biological and non-biological) and/or its stable (biological) operation. Additives may also be added post digestion to enhance / alter the properties of digestate for end use application.

Example additives used in the digestion process include;

- Minerals and trace elements used to support growth and activity of microorganisms
- Mineral acid or alkali used to correct pH
- Salts (such as FeCl_2) for chemical desulphurisation

The range of additives of potential use in anaerobic digestion is however much greater than this and may include (but is not limited to);

- Live/dead cell cultures
- Enzymes
- Synthetic/non-synthetic polymers
- Oils
- Activated carbon
- Biochars
- Nanoparticles
- Antifoam agents

Background work

REAL was approached in early 2019 by an organisation looking to offer an additive to AD operators under the Biofertiliser Certification Scheme (BCS). As there are no clauses in BSI PAS 110:2014 relating to the use of additives, the situation on additive use in the scheme was unclear to the supplier. REAL was subsequently made aware of other potential suppliers in a similar situation.

A discussion was held at the technical advisory committee (TAC) meeting in June 2019 on additive use under BCS. Following the TAC meeting, and subsequent discussions, it was agreed within REAL that a common approach was needed to cover all additives in a practical and efficient manner. Especially given there is no 'system' to assess potential risks to digestate quality or the environment(s) in which the digestate is to be used following additive use.

The BCS position

The lack of specific requirements within BSI PAS 110:2014 also means certification bodies (who approve and regulate on behalf of REAL) do not directly assess the use of additives at sites. Therefore, at this current time, REAL's position is that the use of additives at BCS certified sites should be assessed as part of the site's HACCP planning/study. As such, the use of additives in a BCS certified process is the responsibility of the relevant site operator or their representatives.

Future review

BSI PAS 110:2014 is currently under review and if a decision is taken to revise the standard, this will provide a timely opportunity to consider incorporating requirements on the use of additives to supplement and/or replace assessment under HACCP.