Australian & New Zealand Biosolids Partnership

Regulation of Biosolids Fact Sheet

This Fact Sheet has been prepared by the Australian and New Zealand Biosolids Partnership.

The intent of these Fact Sheets is to provide interested groups and individuals with information about aspects of the treatment and management of biosolids.

This Fact Sheet explains:

- What biosolids are
- How their production is regulated
- How they are classified

What is in biosolids?

Biosolids are mainly a mix of water and organic materials that are a by-product of the sewage treatment processes. Most wastewater comes from household, kitchens, laundries and bathrooms. Biosolids may contain:

- Macronutrients, such as nitrogen, phosphorus, potassium and sulphur; and
- Micronutrients, such as copper, zinc, calcium, magnesium, iron, boron, molybdenum and manganese.

Biosolids may also contain traces of synthetic organic compounds and metals, including arsenic, cadmium, chromium, lead, mercury, nickel and selenium. These contaminants limit the uses to which biosolids can be put, with all applications regulated by appropriate government authorities in each State and federally and nationally in New Zealand. Australia and New Zealand have some of the strictest regulatory regimes for biosolids application and use in the world.

How is biosolids use and production regulated?

In Australia, biosolids are usually regulated by the State environment protection authority (EPA) or equivalent using the guidelines that apply in that State or Territory, or adopting those used in other States or national Guidelines.

The overarching document in Australia is produced under the auspices of the National Water Quality Management Strategy, although frequently the NSW Guidelines are used as a reference.

In New Zealand biosolids safe application to land is carried out under the auspices of Territorial Authorities as per the provisions of Regional Plans. To facilitate the safe application of Biosolids to land, the New Zealand Ministry for the Environment (MfE) and Water New Zealand have developed guidelines for the application of Biosolids to land. These Guidelines are used by Territorial Authorities when evaluating applications for consent to apply biosolids to land on a case-by-case basis.

The primary objective of regulation is to maximise the sustainable use of biosolids ensuring a high level of protection for both the environment and public health. The various, State, Territory and national Guidelines document the correct procedures for the production and management of biosolids so that the quality of the biosolids produced is matched with the purpose for which they may be used, minimising any associated risks.

Details of the guidelines and other relevant documents are accessible on the Guidelines page of the website of the Australian and New Zealand Biosolids Partnership
www.biosolids.com.au

Why do different jurisdictions have different guidelines for management of biosolids?

Just like some specific road rules vary between Australian States and Territories and New Zealand, biosolids guidelines vary too. Each state or country has their own biosolids guidelines to suit their specific conditions while offering adequate protection to human health and the environment.

That having been said, there would be value in standardising the guidelines across the States and Territories and Federally, and between Australia and New Zealand. The Australian and New Zealand Biosolids Partnership has undertaken a review of guidelines and has identified a number of areas of improvement. An outcome of the review process will be to work with biosolids regulators to explore opportunities to improve guidelines and the management structure around the application of these guidelines.

How are biosolids classified?

Biosolids are classified in specific State, Territory or national guidelines. Development of these guidelines is usually carried out by regulatory agencies responsible for environment. Primarily there are usually two parameters examined when determining the classification of biosolids: the treatment (microbiological) grading and the contamination grading.

Most Australian State guidelines and the New Zealand national guidelines have specify three or four treatment grades and two or three contaminant grades. The overall combined grade (treatment and contaminant) is usually linked to the different ways in which biosolids may be used or applied. Blending of lower grades of biosolids with higher grades or with other materials such as green waste may occur in some circumstances to reduce overall contamination.

Grade specifications can be checked with the relevant guidelines.

Are biosolids tested to ensure safety?

Biosolids must be analysed to ensure they meet the quality standards for land application, as defined in State, Territory and national guidelines. These tests may include analyses for pathogens, nutrients, metals and any organic chemicals of concern, for example polychlorinated biphenyls or PCBs. The frequency of testing is based on the amount of biosolids generated by the treatment facility. In addition, biosolids producers must regularly monitor the treatment process.

About the Australian and New Zealand Biosolids Partnership

The Australian and New Zealand Biosolids Partnership (ANZBP) is a collective of utilities, consultants, academics and government agencies committed to the sustainable management of biosolids. Since its formation in 2007, the ANZBP subscriber base has continued to grow and has developed a diverse range of research products and tools to support the objectives of the Partnership. More information on the ANZBP and its activities can be found on the website www.biosolids.com.au.

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Managed by AWA australian water association