How compost and digestate will be regulated by European Regulation?

Overview about the future EU Fertilising Product Regulation and the Organic Farming Regulation

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European Compost Network ECN e.V.
siebert@compostnetwork.info
Overview

- European Compost Network
  - Vision and objectives
  - Membership and work structure
  - EU work structure and policy areas

- Compost and Digestate in the European Circular Economy

- European Legislative Approach
  - EU Fertilising Product Regulation
  - EU Organic Farming Regulation

- Quality Criteria for Compost and Digestate
European Compost Network

ECN’s vision

“Living well within the limited resources of the planet respecting the organic cycle”

ECN is the leading European membership organization promoting sustainable recycling practices in composting, anaerobic digestion and other biological treatment processes of organic resources.
European Compost Network

ECN’s Objectives:

1. **FAVOURABLE LEGAL FRAMEWORK – EUROPEAN POLICY**
   Achieve an EU legal framework that supports separate collection, biological treatment of organic residues and production and use of quality assured compost and digestate products.

2. **MARKET DEVELOPMENT**
   Achieve favourable market conditions across Europe for separate collection, biological treatment and use of compost & digestate products.

3. **IMPLEMENTING QUALITY ASSURANCE SCHEMES**
   Achieve Europe wide implementation of compost and digestate quality assurance schemes, use ECN-QAS as a benchmark.
European Compost Network

Status of ECN Membership

- 68 Members from 30 Countries
- ECN represents more than 3,500 treatment plants (composting and anaerobic digestion) with more than 33 M tpa treatment capacities
- Compost production of 12-15 M tpa, used as
  - Organic Fertiliser
  - Soil Improver
  - Mixing component in Growing Media
ECN’s Work Structure

Area European Policy

ECN BOARD
ECN office
Executive Director and Secretary
Responsible for daily business and policy

- TG Circular Economy
- TG BREF
- TG Fertiliser Regulation
- TG Soil & Organic Matter
  - TG ABPR
  - TG Strubias

Composting and Compost use in Organic Farming | 4 and 5 Oktober 2017 | Estonia
ECN’s EU Policy work

- Commission
- EU Parliament
- ECN
- EU Stakeholders
- EU Council

Composting and Compost use in Organic Farming | 4 and 5 Oktober 2017 | Estonia
ECN’s EU Policy Areas

- Waste
- Fertilisers
- Circular Economy
- Bio-Economy
- Climate Change
- Agriulture
- Soils

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Circular Economy Package

Published 2 December 2015

CE Action plan

Review of waste legislations

- Obligation for separate collection of biowaste with conditions, if technically, environmentally, economically practicable (TEEP)
- Proposed general recycling target for Municipal solid waste 65 %
- Reducing landfilling of municipal waste to 10% of the total amount of municipal waste generates by 2030

Review EU Fertilisers Regulation

Quality standards for compost and Digestate – quasi End-of-waste criteria
Compost and Digestate in the Circular Economy

BIOLOGICAL CYCLE IN THE CIRCULAR ECONOMY

- Production food, plants
- Biofuel
- Recovery renewable energy
- Bio-based products
- Bio-based product use
- Separation & recycling
- Bio-waste & biomass
- Organic materials
- Biogas
- Enrich organic resources
- Production bio-based products
- Soil improver organic fertiliser compost digestate
- Consumption of food & use of green goods
- Separate collection

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Potential of Biowaste in Europe

Biowaste in Municipal Solid Waste (MSW) [EUROSTAT 2016]:

- 20-60% biowaste in MSW
- Potential of biowaste from MSW in Europe: 96 Mt pa
- Recycling of biowaste in Europe: 40 Mt pa

❖ **60 Mt pa of biowaste from MSW is wasted**

Food waste in EU 28 (2012)

- 87.6 Mt total food waste per year
- 46.5 Mt food waste from households

❖ **41.1 Mt pa of commercial and industrial biowaste**

Source: Stenmarck et. al. 2016 FUSIONS report
Biowaste management

Input for composting and anaerobic digestion plants

- Organic fraction (green and food waste)
- Garden wastes
- Crop residues
- Manures
- Commercial & industrial (e.g. food and green waste)

Source: ISWA 2015

Food waste
Garden waste
Crop residues
Manures
### Treatment of Municipal Biowaste in Europe

#### Composting and Anaerobic Digestion

**ECN Survey 2017** (results from 19 European Countries)

* AT, BE, BG, CH, DE, EE, FI, FR, HU, IE, IT, LT, NL, NO, PT, SE, SI, ES, UK

<table>
<thead>
<tr>
<th>Composting</th>
<th>Plants</th>
<th>Input [ mio tonnes/a]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenwaste</td>
<td>1516</td>
<td>10.1</td>
</tr>
<tr>
<td>Biowaste</td>
<td>1272</td>
<td>13.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Anaerobic Digestion</th>
<th>Plants</th>
<th>Input [ mio tonnes/a]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biowaste (incl. Commercial &amp; industrial biowaste+manure)</td>
<td>2.150</td>
<td>24.1</td>
</tr>
</tbody>
</table>

- Separate collection and composting of biowaste
- Separate collection of biowaste in preparation/implementation
- Only limited collection of biowaste
Benefits of biowaste recycling

- **Soil application:** production of organic fertilisers and soil improver
- **Application in horticulture:** replacement of peat in growing media
- **Contribution to renewable energy:** production of biogas for green power and biomethane
- **Saving GHG emissions**
- **Contribute to the Bio-economy:** production of bio-based products, e.g. biochemicals, bioplastics, fibres
**BIO-WASTE GENERATES ORGANIC MATTER**

- **Stabilise soil structure**
  - better infiltration
  - better trafficability
- **Increase of water holding capacity in soils**
  - reduction of climatic impacts
- **Increase of soil warming**
  - to enhance crop production in spring
- **Increase of potential to save nutrients**
  - increase of the nutrient delivery potential
- **Facilitate soil cultivation**
  - reduction of fossil fuels
- **Phytosanitary effects**
  - reduction of soilborne plant disease
- **Decrease of soil loss**
  - reduction of erodability
- **Increase of soil activity**
  - better soil structure
  - higher delivery potential for nutrients

**Benefits of Organic Matter (Humus)**
### Resource Potential of Compost - Fertiliser value

<table>
<thead>
<tr>
<th>Nutrient and Organic Matter potential of Compost</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total potential of bio-waste</td>
<td>125-130 Mio. tonnes per year</td>
</tr>
<tr>
<td>Potential of bio-waste from MSW</td>
<td>90 Mio. tonnes per year</td>
</tr>
<tr>
<td>Compost f.m. (40 %)</td>
<td>36 Mio. tonnes per year</td>
</tr>
<tr>
<td>Compost dm (d.m. 65 %)</td>
<td>23,4 Mio. tonnes</td>
</tr>
<tr>
<td>• Organic matter dm</td>
<td>8-10 Mio. tonnes</td>
</tr>
<tr>
<td>• Nitrogen (N) dm</td>
<td>350,000 tonnes</td>
</tr>
<tr>
<td>• Potassium (K) dm</td>
<td>340,000 tonnes</td>
</tr>
<tr>
<td>• Phosphorus (P) dm</td>
<td>81,600 tonnes</td>
</tr>
</tbody>
</table>
## Compost markets

<table>
<thead>
<tr>
<th>Range [n=12 MS]</th>
<th>Market range</th>
<th>Prices Euro/t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>45 - 78%</td>
<td>0 - (28) €</td>
</tr>
<tr>
<td>Horticulture</td>
<td>3 - 15%</td>
<td>1 - (29) €</td>
</tr>
<tr>
<td>Landscaping</td>
<td>6 - 20%</td>
<td>5 - 30 €</td>
</tr>
<tr>
<td>Blends/soil mix</td>
<td>10 - 15%</td>
<td>5 - 15 €</td>
</tr>
<tr>
<td>Land reclamation</td>
<td>2 - 10%</td>
<td>1 - 2 €</td>
</tr>
<tr>
<td>Hobby gardening</td>
<td>12 - 20%</td>
<td>5 - (320) €²</td>
</tr>
<tr>
<td>Export</td>
<td>6 - 7%</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: ECN 2008 Compost production and use in the EU
EU Fertilising Product Regulation
EU Fertilising Product Regulation


- Including organic fertilisers, soil improvers, growing media, bio-stimulants
- Quasi end-of-waste criteria for compost and digestate from biowaste
  - defined input materials (separate collected bio-waste, no MBT material, no sewage sludge)

Annexes

1. Product Function Categories 'PFC' of CE marked fertilising products
2. Component Material Categories 'CMC'
3. Labelling requirements
4. Conformity assessment procedures
5. EU Declaration of conformity
Vice-President **Jyrki Katainen**: “Very few of the abundant bio-waste resources are transformed into valuable fertilising products. Our farmers are using fertilisers manufactured from imported resources or from energy-intensive processes although our industry could valorise these bio-wastes in recycled nutrients. This Regulation will help us turn problems into opportunities for farmers and businesses.”
EU Fertilising Product Regulation – Objectives

General support on the objectives of the EU Fertilising Product Regulation

- Boosting organic matter (biowaste) recycling from biowaste within CEP
- Integration of organic fertilising products into the scope of the NFR
- Introducing harmonised EU rules for products diverting from organic waste materials
- Creating access to CE marking and free trade for organic fertilising products across EU
- Maintaining the existing “Optional Harmonisation” scheme, free choice to opt for compliance with national rules for fertilising products restricted to national markets or CE marked fertilisers with unrestricted access to EU market
EU Fertilising Product Regulation – New Structure

Exhaustive list of Component Materials Categories
CMC (11)
- Quality
- Safety
- ...

CMC 3 Compost
CMC 5 Digestates other than from energy crops

Exhaustive list of Product Function Categories
PFC (7)
- Quality
- Safety
- Declaration
- ...

PFC 1 A. Organic fertiliser
PFC 3 A. Organic Soil Improver
PFC 4 Growing Media
PFC 7 Fertilising Products Blends

Conformity assessment procedure related to ‘CMC/PFC’ combination
- Modul A - D1
- Declaration of conformity

Modul D.1
Quality Assurance of Process and Products
EU Fertiliser Regulation - Product Function Categories (PFC)

PFC1 Fertiliser

PFC2 Liming material

PFC3 Soil improver

PFC4 Growing medium

PFC5 Agronomic additive

PFC6 Plant Biostimulants

PFC7 Fertilising product blend

PFC1 Fertiliser

- (A) Organic
- (B) Organo-Mineral
- (C) Inorganic

PFC2 Liming material

- (I) Solid
- (II) Liquid

PFC3 Soil improver

- (I) Macronutrient
- (II) Micronutrient

PFC4 Growing medium

PFC5 Agronomic additive

PFC6 Plant Biostimulants

PFC7 Fertilising product blend
## Product Function Categories (PFC) - Requirements

<table>
<thead>
<tr>
<th>Criteria</th>
<th>PFC 1 (A)(I)</th>
<th>PFC 1 (A) (II)</th>
<th>PFC 3 (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Organic Fertiliser solid</td>
<td>Organic Fertiliser liquid</td>
<td>Organic Soil improver</td>
</tr>
<tr>
<td>Dry matter</td>
<td>≥ 40 %</td>
<td>≥ 5 %</td>
<td>≥ 40%</td>
</tr>
<tr>
<td>Corg</td>
<td>≥ 15 %</td>
<td>≥ 5 %</td>
<td>≥ 7,5 %</td>
</tr>
<tr>
<td>Nitrogen (N)*</td>
<td>≥ 2,5 %</td>
<td>≥ 2 %</td>
<td>-</td>
</tr>
<tr>
<td>Phosphorus* (P$_2$O$_5$)</td>
<td>≥ 2 %</td>
<td>≥ 1%</td>
<td>-</td>
</tr>
<tr>
<td>Potassium* (K$_2$O)</td>
<td>≥ 2%</td>
<td>≥ 2%</td>
<td>-</td>
</tr>
</tbody>
</table>

All values based on fresh matter

* As a minimum one of the three nutrient contents have to been reached
## Product Function Categories (PFC) - Requirements

<table>
<thead>
<tr>
<th>Criteria</th>
<th>PFC 1 (A)(I)</th>
<th>PFC 1 (B)</th>
<th>PFC 3 (A)</th>
<th>PFC 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Organic Fertiliser solid</td>
<td>Inorganic Fertiliser</td>
<td>Organic Soil improver</td>
<td>Growing Media</td>
</tr>
<tr>
<td>Cd (mg/kg dm)</td>
<td>1,5</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Cr IV (mg/kg dm)</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Hg (mg/kg dm)</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Ni (mg/kg dm)</td>
<td>50</td>
<td>120</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Pb (mg/kg dm)</td>
<td>120</td>
<td>150</td>
<td>120</td>
<td>150</td>
</tr>
<tr>
<td>C_2H_5N_3O_2 (g/kg dm)</td>
<td>12</td>
<td>12</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Salmonella spp.</td>
<td>absent</td>
<td>-</td>
<td>absent</td>
<td>absent</td>
</tr>
<tr>
<td>Escherichia coli / Enterococcaceae (CFU/g)</td>
<td>≤ 1000</td>
<td>-</td>
<td>≤ 1000</td>
<td>≤ 1000</td>
</tr>
</tbody>
</table>
Component Material Categories (CMC)

CMC 1 Non-polymer virgin materials

CMC 2 Simple plant parts or extracts

CMC 3 Compost

CMC 4 Energy crop digestate

CMC 5 Other digestate

CMC 6 Food industry by-products

CMC 7 Microorganisms

CMC 8 Agronomic additives

CMC 9 Nutirent polymers

CMC 10 Other polymers

CMC 11 Animal By-products

Future CMCs
## Component Material Categories – Requirements

<table>
<thead>
<tr>
<th>Criteria</th>
<th>CMC 3</th>
<th>CMC 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input materials</strong></td>
<td>Compost</td>
<td>Other digestate than energy crop digestate</td>
</tr>
<tr>
<td></td>
<td>Bio-waste, source separated, ABP cat 2 &amp; 3, excluded sewage sludge and mixed municipal waste</td>
<td></td>
</tr>
<tr>
<td><strong>Process criteria</strong></td>
<td>65 °C ≥ 5 days</td>
<td>55°C ≥ 4 h, hydraulic retention ≥ 20 days, 70 °C / 1h etc.+ post-composting</td>
</tr>
<tr>
<td></td>
<td>60 °C ≥ 7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>55 °C ≥ 14 days</td>
<td></td>
</tr>
<tr>
<td><strong>Stability</strong></td>
<td>≤ 25 mmol O₂/kg organic material/h</td>
<td>≤ 50 mmol O₂/kg organic material/h</td>
</tr>
<tr>
<td></td>
<td>≥ RG III</td>
<td>≤ 0,45 l biogas/g vs</td>
</tr>
<tr>
<td><strong>Impurities (&gt; 2mm)</strong></td>
<td>≤ 5 g/kg*</td>
<td>≤ 5 g/kg*</td>
</tr>
<tr>
<td><strong>PAH₁₆</strong></td>
<td>≤ 6 mg/kg</td>
<td>≤ 6 mg/kg</td>
</tr>
</tbody>
</table>

All values based on dry matter

* 2,5 g/kg dm 5 years after the date of application of this Regulation
EU Organic Farming Regulation

Depending on the used input materials (CMC) for the production of a fertilising product (PFC) different conformity assessments have to be applied:

- Module A: Internal production control (CMC 1, CMC 4, CMC 6, CMC 7, CMC 8, CMC 9)
- Module B: EU-Type Examination (Notification of a fertilisers)
- Module C: Conformity to type based on internal production control
  - Modul B +C: CMC 2, CM6, CMC 10, CMC 11, PFC 5 (A)(I),(II), PFC 6
- Module D1: Quality assurance of the production process (CM3, CM5)
EU Fertiliser Regulation – Conformity Assessment

Modul D1: Quality Assurance of the Production Process related to (CM3, CM5)

- Quality Assurance System
  - Input materials
  - Control of the production process
  - Product controls on a regular basis
  - Internal control
  - Documentation
- External control by accredited and notified body
EU Fertiliser Proposal - Status of discussion

Trilogue Verhandlungen

Beratung und Abstimmung im Parlament: 3-4 Oktober

Commission (executive)

Proposes legislation

Parliament (represents EU population)

Amends/decides legislations

Council (represents Member States)

Amends/decides legislation

Oversees

Appoints

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EU Fertiliser Regulation - Status of discussion


Discussion, reports & amendments

Agreement on a common text

Vote

Implementation 2018

Transposition, implementation & enforcement

Delegated acts on specifics CEP

We are
EU Organic Farming Regulation
EU Organic Farming Regulation

Published as (EC) No 834/2007

- Legal framework for organic farming products
- It contains the basic objectives and general principles for organic farming, and
- Illustrates the rules on production, labelling, controls and trade with non-EU countries.

Implementation Regulation

Published as (EC) No 889/2008 of 5 September 2008

- Laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007 on organic production and labelling of organic products with regard to organic production, labelling and control

Revision of the Organic Farming Regulation

- Commission proposal 2014 still under debate
- Latest EP Briefing from 28 June 2017
EU Organic Farming Regulation

**Scope, it covers**

- Agricultural products (including aquaculture products), either processed or unprocessed and intended for human consumption;
- Animal feed, and vegetative propagating material (e.g. roots and grafts) and seed used for crops;
- Yeasts used as food or feed.
EU Organic Farming Regulation

**Overall objectives**
The regulation set out the following objectives:

- sustainable cultivation systems
- a variety of high-quality products.
- greater emphasis on environmental protection
- more attention to biodiversity
- higher standards of animal protection
- consumer confidence
- protecting consumer interests.
EU Organic Farming Regulation

In addition to the overall principles, organic farming shall be based on the following specific principles:

▪ the maintenance and enhancement of **soil life and natural soil fertility**, soil stability and soil biodiversity preventing and combating soil compaction and soil erosion, and the nourishing of plants primarily through the soil ecosystem;

▪ the **minimisation of the use of non-renewable resources and off-farm inputs**;

▪ the **recycling of wastes and by-products** of plant and animal origin as input in plant and livestock production;

▪ Etc.
EU Organic Farming Regulation

Article 12 Plant production rules

In addition to the general farm production rules, the following rules shall apply to organic plant production:

- Organic plant production shall use tillage and cultivation practices that maintain or increase soil organic matter, enhance soil stability and soil biodiversity, and prevent soil compaction and soil erosion;

- The fertility and biological activity of the soil shall be maintained and increased by multiannual crop rotation including legumes and other green manure crops, and by the application of livestock manure or organic material, both preferably composted, from organic production;
In addition

- **Fertilisers and soil conditioners** may only be used if they have been **authorised** for use in organic production under Article 16;
- **Mineral nitrogen fertilisers shall not be used**;
- All plant production techniques used shall prevent or **minimise any contribution to the contamination of the environment**;

➢ The **list of external fertilisers and soil improvers** including specific requirements are laid down in the annexes to the implementing regulation (Commission Regulation (EC) No. 889/2008).
EU Organic Farming Regulation

ANNEX I: Fertilisers and soil conditioners (examples)

- Farmyard manure
  - Product comprising a mixture of animal excrements and vegetable matter (animal bedding), Factory farming origin forbidden
- Dried farmyard manure and dehydrated poultry manure
  - Factory farming origin forbidden
- Composted animal excrements, including poultry manure and composted farmyard manure included
  - Factory farming origin forbidden
- Liquid animal excrements
  - Use after controlled fermentation and/or appropriate dilution
  - Factory farming origin forbidden
EU Organic Farming Regulation

Composted or fermented mixture of vegetable matter
Product obtained from mixtures of vegetable matter, which have been submitted to composting or to anaerobic fermentation for biogas production

➢ Green waste compost
➢ Energy crop digestate
➢ No specific requirements are needed
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**EU Organic Farming Regulation**

**Composted or fermented household waste**
Product obtained from **source separated household waste**, which has been submitted to composting or to anaerobic fermentation for biogas production

- Only vegetable and animal household waste
- Only when produced in a closed and monitored collection system, accepted by the Member State
- Maximum concentrations in mg/kg of dry matter: cadmium: 0,7; copper: 70; nickel: 25; lead: 45; zinc: 200; mercury: 0,4; chromium (total): 70; chromium (VI): 0

➢ Biowaste compost and digestate
Quality criteria for compost and digestate
Quality criteria compost and digestate

- Suitable input material
- Operation quality (plant)
- Product quality (compost)
- Product use (good practice)

Positive-list

Check-list

Product control

Application recommendation

National-QAS (Quality label)
- plant certificate
- product certificate
- annual quality report

ECN-QAS
- certification of conformity
- conformity label

and
Quality criteria compost and digestate

Process recommendations for composting

- 55 °C for 14 days in open windrow systems or
- 65 °C / 60 °C for three days in open windrow / in-vessel systems

Process recommendations for digestion

- Proof of digestion process based on process model with critical control points (CCP), hydrolic retention time, hygienisation record)
## Overview on environmental criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>ECN-QAS</th>
<th>PFC 1 (A)(I)</th>
<th>PFC 3 (A)</th>
<th>Organic farming Reg.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Compost and Digestate solid</td>
<td>Organic Fertiliser solid</td>
<td>Organic Soil improver</td>
<td>Compost /digestate</td>
</tr>
<tr>
<td>Cd (mg/kg dm)</td>
<td>1,3</td>
<td>1,5</td>
<td>3</td>
<td>0,7</td>
</tr>
<tr>
<td>Cr IV / Cr (mg/kg dm)</td>
<td>- / Cr 60</td>
<td>2 / -</td>
<td>2 / -</td>
<td>0 / 70</td>
</tr>
<tr>
<td>Hg (mg/kg dm)</td>
<td>0,45</td>
<td>1</td>
<td>1</td>
<td>0,4</td>
</tr>
<tr>
<td>Ni (mg/kg dm)</td>
<td>40</td>
<td>50</td>
<td>50</td>
<td>25</td>
</tr>
<tr>
<td>Pb (mg/kg dm)</td>
<td>130</td>
<td>120</td>
<td>120</td>
<td>45</td>
</tr>
<tr>
<td>C$_2$H$_5$N$_3$O$_2$ (g/kg dm)</td>
<td>-</td>
<td>12</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Salmonella spp.</td>
<td>absent</td>
<td>absent</td>
<td>absent</td>
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<tr>
<td>Escherichia coli / Enterococcaceae (CFU/g)</td>
<td>≤ 1000</td>
<td>≤ 1000</td>
<td>≤ 1000</td>
<td>≤ 1000</td>
</tr>
</tbody>
</table>
### Overview on environmental criteria

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Compost and Digestate solid</td>
<td>Compost and Digestate (CMC 5)</td>
<td>-</td>
<td>-</td>
<td>Compost/digestate</td>
</tr>
<tr>
<td>Cu (mg/kg dm)</td>
<td>300</td>
<td>-</td>
<td>-</td>
<td>70</td>
</tr>
<tr>
<td>Zn (mg/kg dm)</td>
<td>600</td>
<td>-</td>
<td>-</td>
<td>200</td>
</tr>
<tr>
<td>PAH$_{16}$ (mg/kg dm)</td>
<td>-</td>
<td>6</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>Weed seeds (seeds /L)</td>
<td>≤ 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Impurities (% dm)</td>
<td>≤ 0.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxygen Update rate (mmol O$_2$/OM *h)</td>
<td>-</td>
<td>50</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>Rotting degree</td>
<td>-</td>
<td>-</td>
<td>III</td>
<td>-</td>
</tr>
<tr>
<td>Residual Gas potential (liter biogas/g volatile solids)</td>
<td>-</td>
<td>0.45</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Further information
Further information

www.compostnetwork.info