



Converting waste into products

End of waste submission form guidance

5 February 2014

We can provide a view on whether your waste can be classified as a product and outside of waste regulatory control.

Decisions are based on the Waste Framework Directive (2008/98/EC), European, English and Welsh case law on the definition of waste; in particular, the Court of Appeal OSS end of waste test. This specifies three criteria, and you must satisfy them all:

- the waste must be converted into a distinct and marketable product
- the waste-derived product can be used in exactly the same way as a non-waste material
- the waste-derived product can be stored and used with a 'no worse' environmental effect when compared to the non waste material it is intended to replace

! The evidence you provide should be as concise as possible and always relate directly to the waste-derived product under consideration.

Use these forms:

- [EWS1 for waste-derived products for land-use applications](#)
- [EWS2 for waste-derived products for fuel](#)
- [EWS3 for waste-derived products for use in manufacturing or construction](#)

Information we need

A1 Your contact details

A2 Your permit details

Tell us if your activities are regulated under an environmental permit or an exemption. You do not need to attach a copy of your permit.

If we regulate your site, give us the name of your Regulatory Officer.

If you have an exemption for your activity, tell us under which Paragraph in Schedule 3 of the [Environmental Permitting Regulations 2010](#) it comes under.

A3 Tell us about the waste you produce, handle or process

We need to know details about what wastes you want to make into a product. So provide:

- information on the waste(s) used to make the waste-derived product, where these wastes come from and details of the processes you will use
- details of the composition and consistency of the waste(s) you are to process - include specific analysis or data you have for each waste to be processed
- whether it's classified as hazardous waste and its EWC code - [see List of Waste Regulations](#)
- how much waste(s) you use to manufacture the waste-derived product
- data on any raw material/non-waste you use with the waste(s) to manufacture the waste-derived product

A4 Details of the product you will produce

This is the main section where you set out your evidence explaining why your waste-derived product meets the end of waste test. Remember, satisfying the three criteria set out in the OSS judgment is crucial.

There may be new or novel manufacturing processes used in producing the waste-derived product, if so we will need to fully understand these processes so you should provide us with robust data and information.

Test 1: The waste has been converted into a distinct and marketable product

Describe what:

- makes the waste-derived product distinct from its previous waste format
- the intended market for your waste-derived product
- evidence to show the market is regular and secure - you may need to provide evidence of prospective purchasers for your waste derived product

! If you process waste(s) with other materials which merely involve mixing, blending or dilution of wastes we are unlikely to consider the process as 'resulting in a distinct final product'. We are most likely to view the resultant material as a new waste.

Test 2: The processed product can be used in exactly the same way as a non waste material

You will need to directly compare your waste-derived product against an equivalent non waste comparator. Where a waste is to be used to replace a component in a blended final product, then the waste should be able to substitute directly for the original raw material used as that individual component.

Where you can, present information in a table format - it makes it easier for us to see the differences between your waste-derived product and your non waste comparator.

We need to know:

- the intended use, and place of use, of your waste-derived product, and whether it is for a specific or general purpose on one site or a number of sites
- the benefits of the waste-derived product
- if the waste-derived product will replace non waste material totally or partially - if partially, tell us why
- how the properties of the waste-derived product compare with non waste product
- all constituent components of the waste derived product, however minor
- any specific requirements or practices required at the receiving site

Test 2: Specific guidance for waste-derived products for land applications

Provide details of how the waste-derived product will be used. There are four main reasons why materials may be applied to land:

- for plant yield and quality - like fertilising and nutrients
- altering soil chemical properties - like liming or pH
- soil physical properties - like gypsum, and for soil structure and quality
- altering soil biological properties - like organic matter and soil structure

!Fertilisers and lime and soil conditioners:

Refer to separate guidance and the Fertiliser Regulations 2006

<http://www.legislation.gov.uk/ukxi/2006/2486/contents/made>

And Defra's guidance RB209, 8th Ed June 2010 Fertiliser Manual and in particular to the annexes

<http://www.defra.gov.uk/publications/files/rb209-fertiliser-manual-110412.pdf>

For more help see <http://www.defra.gov.uk/food-farm/land-manage/nutrients/>

Also tell us:

- what the fertiliser content and the properties of the material are
- the application rates of the waste-derived product to the land
- how the product will improve structure or other properties of soils it is to be applied to (if it is being produced as a soil conditioner)
- any preparation required for the receiving land
- what environmental risks have been identified, how these risks have been assessed and what the outcomes are (e.g. surface or groundwater pollution, odour dust etc.)

Test 2: Specific guidance for waste-derived products for fuel applications

Include:

- calorific values (CV) of the non waste product and your waste-derived fuel product
- whether the fuel may be used at specific site(s), or burned anywhere
- if, and how, the abatement techniques at the receiving facility need to be changed to accept your waste-derived fuel product

It is important that the information you provide directly compares the waste-derived fuel product with the non waste fuel and the applications that the waste-derived fuel will be used in.

Test 2: Specific guidance for waste-derived products for manufacturing or construction

Include:

- any possible contaminants in the waste-derived product
- why you have chosen the particular comparator material
- the properties the waste(s) provide within the waste-derived product (what are the desirable characteristics)
- how the waste derived product will be used

There are many national and international standards for manufacturing and construction materials. These may affect your choice of non waste comparator material. Or you may be manufacturing a waste-derived product to meet an accepted standard. We need to understand your decision-making processes, so please provide full details. Quality Protocols may be a useful reference source.

Test 3: With no worse environmental effects

We need assurance there are no properties in your waste-derived product, including trace components or contaminants, which may lead to a worse environmental impact than when using an equivalent non waste product.

You need to prepare, as an appendix, this information with quantified measurements:

- any characteristics, parameters or content that is in the waste-derived product but not in the non waste comparator
- an analysis of your waste-derived product, clearly demonstrating its composition, its variability and evidence of the way in which it will be used and that it will cause no worse environmental impact than the relevant non waste comparator
- the specification for every batch of your waste-derived product
- the sampling and analysis used including detection levels – this should be United Kingdom Accredited Service (UKAS) accredited or, if not, provide evidence validating your chosen method

Test 3: Specific guidance for waste-derived products for land applications

Compare the amount of beneficial nutrient or property in your waste-derived product compared to the non waste comparator material.

Include detailed descriptions of the land types to which you intend to apply your waste-derived product. If the land has received waste or other materials in the past it may already have high concentrations of certain components like metals. Or there may be high, natural levels of such components where increased loading may affect the environmental risk.

If the land is to be used for agricultural purposes check the Code of Practice for Good Agricultural Practice.

Test 3: Specific guidance for waste-derived products for fuel

We compare the specifications for waste-derived fuel with that of the comparable equivalent non waste fuel 'comparator' to establish that the impact on the environment from using the waste derived fuel will have 'no worse environmental effects'. This is assessed at the point the waste-derived product is ready for use as a fuel. The test cannot include any mitigating factors that may occur after that point, or when it is burnt. This includes specific combustion techniques or abatement equipment.

Your choice of comparator fuel needs to be considered carefully and justified. A blend of waste derived fuel and non waste fuel is not an appropriate comparator.

You will need to compare the amount of pollutant(s) produced per unit of energy from both the non waste fuel comparator and the waste-derived fuel product (mass/GJ net CV).

Your specifications should include the following:

1. Parameters key to fuel performance:

These would normally include:

- for liquid fuels - viscosity, flash point, water content, carbon residue, calorific value and sediments
- for solid fuels - proximate/ultimate analysis, moisture content, calorific value, ash melting properties
- for gaseous fuels - interchangeability (dependent on calorific value, specific gravity, flame speed) with the non waste comparator

2. Contaminants

Information on the following contaminants should be provided:

Sulphur, halogens (expressed as Cl), ash and heavy metals (the Industrial Emissions Directive suite of heavy metals plus zinc). We will accept total content of the following metals Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds.

Also provide details on any other component of the waste-derived fuel that may give a different combustion characteristic to that of the non waste fuel.

A5 Details of how you will ensure your waste-derived product will meet the required specification

You need to show how your waste-derived product will consistently meet your stated specification. You should describe your waste acceptance procedures (where relevant) and the processes the waste undergoes prior to being converted into a non waste material (any pre-treatment or treatment processes). You should also describe your quality assurance procedures, giving detail on:

- sampling methods of waste you accept for processing
- frequency of sampling
- frequency of testing, showing if samples are batched or sampled individually for subsequent testing or analysis
- testing criteria, and analytical methods including limits of detection
- accreditation details of the laboratory services

- details of record-keeping for waste receipt, sampling and analysis
- review procedures for all your systems
- details of what happens to batches that do not meet the specification

You will need to:

- sample every batch to show you have met your specification
- justify any proposal for less frequent sampling - this should be statistically robust
- justify why you excluded any components from your specification

Note: if you have an environmental permit or exemption, we may discuss your procedures with you when we carry out our permit inspections.

This document is out of date. Withdrawn 03/04/2018