

Paragraph 7 Exemption

1 INTRODUCTION

This document provides guidance, definitions, operational policy and strategy with regard to registering a paragraph 7 exemption to treat land for benefit to agriculture or ecological improvement.

2 SEPA'S OPERATIONAL POLICY CONCERNING PARAGRAPH 7 EXEMPTIONS.

2.1 How many farms can I apply for under one notification?

The Waste Management Licensing (Scotland) Regulations 2011, as amended, (WMLR) state that, "the land to be treated by the waste falls within a single farm or the total land to be treated does not exceed 50 hectares".

SEPA will therefore allow the exemption to cover multiple separate farms under different ownership at any locale within the scope of the SEPA office where it is to be registered. There is to be no maximum number of farms, there are however strict rules on the number of soil samples required (see 2.2 below) and the maximum area to be treated under one exemption is 50 hectares.

A single farm may register more than 50 hectares on one form simply by stating the total number of hectares to be treated. The storage limits for any paragraph 7 exemption is 1250 Tonnes. If a single farm wishes to treat more than 50 hectares the maximum storage under any one exemption is 1250 Tonnes.

A "single farm" means, a single agricultural holding including premises and fields associated with it which is managed as one unit as defined for the purposes of the Integrated Administration and Control System for farm support; and "multiple farms" means one or more single farms.

2.2 What do I need to provide with each notification?

The following information **must** accompany the notice of initial registration:

a) A plan of each place where the exempt activity will be carried on showing the boundary of that place (i.e. the fields or farm boundaries) and the locations within that place at which the exempt activity is to be carried out (i.e. the parts of the fields or places that are suitable for treatment)

SEPA requires that the plan also show the location of: the storage place, if it occurs near the place of treatment; watercourses within 15 m of any treatment site; including field drains; springs and wells within 50 m of any treatment site, stating whether they are used for public or private drinking water purposes; boreholes within 250 m of any treatment site, stating whether they are used for drinking water purposes; properties where people live or work, public rights of way and conservation and archaeological sites within 50 m of any treatment site.

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b) The appropriate notification fee (cheques made payable to “Scottish Environment Protection Agency”). The charging scheme may be found on SEPA’s website at www.sepa.org.uk or obtained by contacting your local SEPA office.

c) An analysis of the wastes to be spread and the soil on which they are to be spread. See Annex 1 for details on the parameters to be tested for each waste type and Annex 3 for the reporting units and testing methods (where appropriate). Note that if you propose to spread waste compost or digestate on land you must submit analysis of the concentration of total physical contaminants and detail any plastic contamination element separately. Soil texture should be given using reference to the UK-ADAS soil texture triangle which classifies soil according to the relative proportions of clay, silt and sand. This will affect the drainage of the soil and the likelihood of run-off.

d) Where it is proposed to treat with 02 02 03 some form of evidence is required from the local authority in which the land is located to confirm that the waste has been treated in accordance with the Animal By-Products Regulations. This is likely to take the form of an official letter or certificate.

e) Where ecological improvement is the purpose of the treatment the following documents **must** also be supplied.

A certificate must be provided describing how the treatment will result in ecological improvement, which shall be prepared by or based on advice from a person who, in the opinion of SEPA, has appropriate technical or professional expertise. If you require information on this requirement see Annex 2 or contact your local SEPA office.

f) An assessment of the risk of pollution caused by the spreading must be provided. (including a flood risk assessment when the activity is located on a flood plain – see 2.14 below)

For renewals where there are no changes the following documents **must** also be attached:

a) The appropriate notification fee (cheques made payable to “Scottish Environment Protection Agency”). Found on www.sepa.org.uk or obtained by contacting your local SEPA office.

b) An analysis of the wastes to be spread and the soil on which they are to be spread. See Annex 1. Note that if you propose to spread waste compost or digestate on land you must submit analysis of the concentration (expressed as a percentage mass per mass of sample) of physical contaminants.

Where minor changes are identified at the renewal stage these should be highlighted in an additional document. It is good practice to discuss this with your local SEPA office prior to the 21 day notification period commencing to ensure that SEPA consider them to be minor.

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2.3 How many soil samples do I require to show agricultural benefit?

SEPA requires a sample for every field. Where fields are greater than 10 hectares we require a sample for each 10 hectare or part thereof. Where there are many small fields with the same soil texture and crop requirements these may be amalgamated into 10 hectare areas.

Where the fields are not geographically co-located on the same farm or are on different farms analysis of every field (or grouping of fields up to 10 ha) is required. Geographically co-located means within 50 metres, this allows for buffer strips, roads etc.

2.4 How can I make sure my soil analysis is representative?

The soil in a field can vary and it important to submit analysis that reflects the conditions across the entire field. Annex 4 provides guidance on how soil sampling should be undertaken.

2.5 How old can my soil analysis be?

In assessing benefit to agriculture the more recent analysis the better. Normally soil analysis should be no older than 12 months at the time of submission of the notification (including renewal). However, older analysis up to three years prior to the submission of the notification is acceptable provided documentary evidence is supplied to show how other wastes/fertilisers applied since that date have been accounted for in terms of calculated application rates.

2.6 How old can my waste analysis be?

For wastes that vary little in composition over the time in which they are produced, analysis up to 2 years prior to notification is acceptable. For waste streams that vary in composition over time, analysis within 6 weeks of submission of notification will be required.

To demonstrate that an analysis of the waste is representative (i.e. to argue for the submission of data up to 2 years old) you must provide at least 3 analyses, each from a different batch, but with a minimum of 6 weeks between each sample.

For renewals, where the wastes chemical composition does not change, analysis can be supplied up to every three years. Where the chemical composition is variable analysis should be within 6 weeks of submission of the renewal.

2.7 What waste types are acceptable?

Agricultural land can be treated with any of the wastes that are included within Table 2 of the Regulations (they are also listed in notification form). Wastes that are not included on this list are not exempt.

Operational land of a railway, light railway or the British Waterway's Board; or land which is forest, woodland, park, garden, verge, landscaped area, sports ground, recreation

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ground, churchyard or cemetery, can only be treated with wastes that are included within Part 1 of Table 2 of the regulations. Wastes that are not included on this list are not exempt.

2.8 What are the main reasons a notification will be taken off the public register?

Although not exhaustive there are several principal reasons why a notification would be taken off the register. These are:

- The operator is no longer carrying out the activity;
- The activity is being carried out in breach of any of the conditions or limitations of the relevant exemption;
- The operator fails to meet the Registration Obligations; and
- The type and quantity of waste submitted to the activity, and method of recovery are not consistent with the Relevant Objectives.

Schedule 4 of the 1994 waste management Regulations specifies that it must be ensured that waste is recovered without endangering human health and without using processes or methods which could harm the environment and in particular without:

- Risk to water, air, soil, plants or animals; or
- Causing nuisance through noise or odours; or
- Adversely affecting the countryside or places of special interest.

An exemption is removed from the register when the activity is no longer being undertaken in accordance with the Regulations. The continuation of the activity without either a waste management license or registered exemption is an offence.

2.9 If the operator fails to treat the land as per the good agricultural practice specified in the PEPFAA code (Prevention of Environmental Pollution from Agricultural Activity) will the notification be taken off the public register by SEPA?

If it is identified that wastes are not being applied as per PEPFAA Code (i.e. to waterlogged/frozen ground) and there is risk of pollution, the exemption will be taken off the public register and appropriate enforcement action taken.

In circumstances where enforcement action is being considered, the failure to follow the PEPFAA Code would be taken into account by SEPA.

2.10 What changes can I make to the land notified at renewal time?

You cannot add additional land (not previously registered under this exemption) at renewal time. You may however reduce the area registered.

2.11 What happens if SEPA deems that in general the notification is acceptable but that one or more of the fields the operator proposes to treat with waste is not acceptable?

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In strict legal terms the whole notification should be refused as the operator is notifying SEPA of their intention to carry out an activity rather than applying to carry out an activity. However, SEPA intends to take a pragmatic approach. Where it is identified during full assessment of the notification that it is inappropriate to treat a specific field due to potential pollution risk SEPA will give the Operator five working days (where the 21 day time period allows) to amend and initial their notification. This is one of the reasons a pollution risk assessment is required for each field.

2.12 What additional analysis of the soil and waste is required to show that the requirements of the Nitrates Directive are being complied with?

Nitrate Vulnerable Zones (NVZ's) are areas of land that are designated sensitive to nitrate pollution under the EC Nitrate Directive. Much of the East of Scotland is designated as an NVZ as is the Nith catchment in Dumfriesshire. To identify if the land you propose to treat is within an NVZ contact your local SEPA office or local Scottish Executive Agricultural Office.

The waste should be analysed for Available Nitrogen (NH₄-N) and Total Organic Nitrogen. The soil should be analysed for Total Organic Nitrogen. Note: This analysis maybe required to show agricultural benefit.

2.13 What am I required to analyse for?

Schedule 3 of the WMLR details the analysis requirements for the waste; Different analyses are required for each waste type (as defined by a European Waste Catalogue code). Schedule 3 is reproduced in Annex 1 below.

On renewal SEPA may accept a reduced analysis of the waste. This should be discussed with your local SEPA office prior to submission but minimum requirements are likely to include evidence of what the waste will provide in terms of agricultural benefit and any risks associated with the waste e.g. nutrients and copper for distillery waste.

Soil analysis should include levels of nutrients and other elements required to justify how the application of the waste will provide agricultural benefit. Where the waste has associated risks the soil should be analysed to indicate whether any accumulation in the soil will be within acceptable levels.

Annex 3 details the reporting units and testing methods (where appropriate) for the waste and the receiving soil. SEPA recommends the use of laboratories accredited to carry out the necessary analysis.

2.14 What is meant by agricultural benefit or ecological improvement?

Agricultural Benefit and Ecological improvement are explained in the regulations. The wording is reproduced in Annex 2 below. In addition to the physical benefit provided by the waste, please indicate the phase in the crop cycle when it is planned to apply the waste. Any fertiliser should be spread when it will provide the highest benefit to the crop so nutrients should be applied in early spring to early summer to ensure they are taken up by the growing plants and do not leach out into watercourses. Wastes with a low

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nutrient but high liming content should be spread in autumn to ensure the liming effect takes place prior to sowing the next year's crop. Nutrient addition should not exceed the crop requirement for any one particular growing season unless soil analysis identifies a requirement for additional nutrients. Applying too much nutrient or at the wrong time in a particular growing season may be viewed as a disposal activity which may require a PPC permit.

2.15 What if the activity takes place on a flood plain?

To ensure that flood risk is managed and to fulfil the requirements of the Flood Risk Management Scotland Act, the infill of floodplain with any material which reduces the capacity of the floodplain to attenuate or store water is contrary to the principles of sustainable flood management. As such SEPA would not register such notifications, unless in exceptional circumstances or where the flood risk impact is demonstrated as being negligible. In such circumstances a flood risk assessment would be required in support of any such application.

2.16 What else do I need to know?

Water Environment (Controlled Activities)(Scotland) Amendment Regulations 2013

The land manager must ensure any fertiliser (include waste derived materials) applied to land is done so in accordance with General Binding Rule (GBR) 18 of The Water Environment (Controlled Activities)(Scotland) Amendment Regulations 2013. These regulations can be found via this link:

http://www.legislation.gov.uk/ssi/2013/176/pdfs/ssi_20130176_en.pdf.

Rule 18 requires that nutrient is only applied where there is a crop requirement and that the amount applied matches the need of the following crop. This is done through careful calculation of nutrient budget based on accurate soil analysis. Contractors, agents and land managers must take into consideration all fertilisers that are applied to the land throughout the year including livestock slurry, organic and inorganic fertilisers and other amendment products to ensure that the soil is not overloaded with nutrients. Excess nutrients may leach out of the soil and pollute ground- and surface waters.

It also states that organic fertiliser must not be spread on frozen, snow covered and waterlogged ground. To help land managers comply with this rule SEPA is promoting the use of Planet Scotland to increase business efficiency. Good nutrient management is important for both farm efficiency and protection the environment. The free software is available at www.planet4farmers.co.uk.

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3 OTHER SOURCES OF INFORMATION AND GUIDANCE

Prevention of Environmental Pollution From Agricultural Activity Code of Good Practice. The Scottish Executive (PEPFAA Code).

Prevention of Environmental Pollution From Agricultural Activity Code of Good Practice Dos and Don't Guide. The Scottish Executive.

Technical Note T459: Use of Non-agricultural Wastes on Farmland (1997) Scottish Agricultural College.

Technical Note T481: Risks from Spreading Liquid Waste on Sloping Ground (1999) Scottish Agricultural College.

Code of Practice for Landspreading Paper Mill Sludge (1998) The Paper Federation of Great Britain.

The Waste Management Licensing (Scotland) Regulations 2011 (as amended), Statutory Instrument 2011:228

Scottish Executive Circular 10/94 – Environmental Protection Act 1990: Part II Waste management Licensing, The Framework Directive on Waste

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Annex 1 WMLR Schedule 3

Codes in European Waste Catalogue	Parameter						
	Neutralising Value	Microbiology	Oils & Fats	Potentially toxic elements	Prescribed substances*	Carbon/Nitrogen ratio	Physical Contaminants & plastic contaminants
3 03 11, 03 03 99	X			X	X	X	
02 01 99, 03 01 01, 03 01 05, 03 03 01, 17 05 04, 20 02 02		X		X	X		
02 02 03		X	X				
02 03, 02 04, 02 05, 02 06, 02 07	X		X				
03 03 09, 10 13 04, 10 01 01 [#] 10 01 99	X			X	X		
02 01 03, 02 04 01, 20 02 01		X		X	X	X	
04 02 10, 04 02 15, 04 02 20, 04 02 21, 04 02 22						X	
04 01 07			X	X	X		
17 05 06,				X	X		
07 07 12	X	X	X	X	X	X	
19 09 02	X	X		X	X		
06 01 99	X						
19 05 03		X		X	X	X	X
19 06 04, 19 06 06 19 06 03 [^] , 19 06 05 [^] ,				X	X		X

* Substances prescribed in Schedule 6 to the 1991 Regulations

[#] Waste code 10 01 01 was added in following a direction from the Scottish Government on 10 April 2012

[^] Physical contamination must be stated for separated liquor where the separation technology used by the producer does not remove all particles <2mm.

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Annex 2

ASSESSMENT OF BENEFIT TO AGRICULTURE OR ECOLOGICAL IMPROVEMENT

In assessing benefit to agriculture, regard shall be had to whether the use of the waste on the land will result in an improvement of the soil for the purpose of growing crops or grazing, and the following criteria shall apply for the purposes of such assessment–

(a) the addition of nitrogen, phosphorus and other plant nutrients in the waste material should take account of the soil nutrient status and other sources of nutrient supply and be matched to the needs of the planned crop rotation;

(b) the addition of total nitrogen attributable to the use of the waste on the land in any 12 month period must not exceed 250 kilograms per hectare, except in the case of the following wastes as listed in the European Waste Catalogue–

(i) soil from cleaning and washing beet (02 04 01);

(ii) soil (including excavated soil from contaminated sites), stones and dredging spoil consisting of soil and stones other than those containing dangerous substances (17 05 04);

(iii) dredging spoil other than those containing dangerous substances (17 05 06); and

(iv) garden and park wastes (including cemetery wastes) consisting of soil and stones (20 02 02);

(c) the addition of organic matter which improves the capacity of the soil to hold water, or its porosity, stability, tilth and workability and is a benefit;

(d) the addition of materials containing lime should take account of the neutralising value of the material, the pH of the soil and the target soil pH for the crop rotation;

(e) the spreading of watery wastes may be a benefit where the moisture of the soil is insufficient to support the growth of crops at the time of application, or where they contain nutrients which are applied at an appropriate rate;

(f) the spreading of waste soil may be a benefit where it is done in order to level uneven land and thereby facilitate the use of the land for agriculture, but not where it is done solely in order to raise the level of the land.

In assessing ecological improvement, regard shall be had to the extent to which wildlife habitats which might otherwise deteriorate are maintained or supported. The creation of a new habitat, or the restoration of an old habitat, is regarded as an improvement."

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Annex 3

Table 1: Soil data to be provided

Parameter	Unit (all based on dry weight)	Preferred method ¹
pH	n/a	BS ISO 10390:2005 (Extraction in calcium chloride solution is the preferred variant. Extraction in potassium chloride solution, or extraction in deionised water are also acceptable) – used method has to be specified
Total carbon (Ct), Organic carbon (Corg) or Loss on ignition (LOI)	% (w/w) dry matter	BS 7755-3.8:1995, ISO 10694:1995 (Dumas (combustion) method) or BS EN 13039:2011 (Loss on ignition)
Total N (Nt)	% (w/w) dry matter	BS 7755-3.7:1995, ISO 11261:1995 (Kjeldahl extraction) or BS EN 16168:2012 (Dumas (combustion) method)
Extractable P	mg/l dry matter	Morgan (Morgan, 1941) or Modified Morgan extraction (McIntosh, 1969; SAC method) ² ; or BS 3882:2007 (Olsen's extraction or Anionic Resin extraction) (DEFRA method) ³
Extractable potassium (K)	mg/l dry matter	Morgan (Morgan, 1941) or Modified Morgan extraction (McIntosh, 1969; SAC method) ² or BS 3882:2007 (Ammonium nitrate extraction (DEFRA method) ³
Extractable magnesium (Mg)	mg/l dry matter	Morgan (Morgan, 1941) or Modified Morgan extraction (McIntosh, 1969; SAC method) ² or BS 3882:2007 (Ammonium nitrate extraction (DEFRA method) ³
Cd	mg/kg dry matter	BS 7755-3.9:1995, ISO 11466:1995 (Aqua Regia digest)
Cu	mg/kg dry matter	BS 7755-3.9:1995, ISO 11466:1995 (Aqua Regia digest)
Cr	mg/kg dry matter	BS 7755-3.9:1995, ISO 11466:1995 (Aqua Regia digest)
Ni	mg/kg dry matter	BS 7755-3.9:1995, ISO 11466:1995 (Aqua Regia digest)
Pb	mg/kg dry matter	BS 7755-3.9:1995, ISO 11466:1995 (Aqua Regia digest)
Zn	mg/kg dry matter	BS 7755-3.9:1995, ISO 11466:1995 (Aqua Regia digest)

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¹ latest available edition

² The original article outlining the method (McIntosh, 1969) is not readily available online, however for an online summary, please see page 44 of Wolf A and Beagle D (2009).

³ see MAFF (1981)

Table 2: Waste data to be provided

Parameter	Unit	Preferred method ¹
Dry matter (DM), dry solids (DS) or moisture content	% (w/w) fresh weight	BS EN 14346: 2006 (Gravimetric method)
pH	n/a	BS EN 13037:2011 (Extraction in calcium chloride solution, extraction in potassium chloride solution, or extraction in deionised water)
Total carbon (Ct), Organic carbon (Corg) or Loss on ignition (LOI)	% (w/w) dry matter	BS EN 15936:2012 (Dumas (combustion) method), or BS EN 15169:2007 / BS EN 13039:2011 (Loss on ignition)
Total nitrogen (Nt)	mg/kg or mg/l fresh weight (preferred), % fresh weight (also acceptable)	BS EN 13654-1:2001 (Kjeldahl extraction), or BS EN 13654-2:2001 (Dumas (combustion) method)
Available N (Navail) or Ammonium nitrogen (NH ₄ -N) and nitrate nitrogen (NO ₃ -N)	mg/kg or mg/l fresh weight (preferred), % fresh weight (also acceptable) as NH ₄ -N and NO ₃ -N	BS EN 13652:2001
Total phosphorus (P)	mg/kg or mg/l fresh weight (preferred), % fresh weight (also acceptable) as P	BS EN 13650:2001 (Aqua Regia digest)
Total potassium (K)	mg/kg or mg/l fresh weight (preferred), % fresh weight (also acceptable) as K	BS EN 13650:2001 (Aqua Regia digest)
Total magnesium (Mg)	mg/kg or mg/l fresh weight (preferred),	BS EN 13650:2001 (Aqua Regia digest)

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	% fresh weight (also acceptable) as Mg	
Cadmium (Cd)	mg/kg dry weight	BS EN 13650:2001 (Aqua Regia digest)
Copper (Cu)	mg/kg dry weight	BS EN 13650:2001 (Aqua Regia digest)
Chromium (Cr)	mg/kg dry weight	BS EN 13650:2001 (Aqua Regia digest)
Nickel (Ni)	mg/kg dry weight	BS EN 13650:2001 (Aqua Regia digest)
Lead (Pb)	mg/kg dry weight	BS EN 13650:2001 (Aqua Regia digest)
Zinc (Zn)	mg/kg dry weight	BS EN 13650:2001 (Aqua Regia digest)
Physical contaminants	kg/t fresh weight	NRM Method JAS-497/001 ²
Plastic contaminants	kg/t fresh weight	NRM Method JAS-497/001 ²

¹ latest available edition

² NRM Laboratories method "Determination of Physical Contaminants and Stones in Digestate" 2012

Additional data that should be provided to allow proper assessment of requirement of amount of waste for ecological improvement:

- Application rate [unit: t/ha fresh weight]
- Current land use and vegetation present
- Specification of land use and type of vegetation to be established/restored.
- If different land uses/vegetation types are to be established, the area for each unit.
- Incorporation depth of waste material [unit: m]
- Nutrient requirement of the vegetation/habitat to be established/restored

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Annex 4

Soil Sampling Instructions

A soil sample from an individual field should be made up of at least 25 sub-samples in order for it to be considered representative of soil conditions.

The subsamples should be collected in a 'W'-shaped pattern across the field that is being sampled. The 'W' should cover the full area of the field that is being sampled, with one sample taken at each point of the 'W' and at least 5 further samples taken along each leg of the 'W' at evenly-spaced intervals.

Subsampling should be avoided in locations that are not representative of general field conditions, e.g. within 3 m of feeder rings, gates, boulders, etc.

A soil auger should be used to take subsamples. Before augering, surface vegetation and stones should be removed from the subsampling point. If no auger is available spade or trowel can be used. However these tools don't allow equal sampling over the complete soil depth (see below).

For characterisation of general soil quality, samples should be taken to a depth of 20 cm or the depth of the soil profile, whichever is greater.

When sampling of a field is completed, all subsamples should be thoroughly mixed together to create a single composite sample. Larger clumps should be broken.

In general the composite sample has to be reduced for bagging by coning and quartering; the sample is heaped into a cone, then split into even quarters and two opposite quarters are discarded. The remaining sample is then thoroughly mixed, before the process outlined above is repeated until the sample volume has been reduced enough to provide a sufficient volume to allow all required sample containers to be filled, with no sample left over.

The sample container/bag should be sealed and labelled properly

Samples should be stored in a cool place (cool box, fridge at 2-7°C) before sending of to the analysing laboratory.

The maximum area that should be covered by a single 'W' is 10 ha. If the field is larger, a separate 'W' should be used for each 10 ha area and the resulting composite samples bagged and analysed separately.

References

This method is based on information contained in the following British Standards:

BS ISO 10381-1:2002. Soil Quality – Sampling – Part 1: Guidance on the design of sampling programmes.

BS ISO 10381-2:2002. Soil Quality – Sampling – Part 2: Guidance on sampling techniques.