



Guidance Document for notifying SEPA of a Waste Management Licensing (Scotland) Regulations 2011 Paragraph 7(1) Exemption Activity and the carrying out of that Activity

This guidance document should be used for Notifications where the Agricultural Benefit Calculator (ABC) is used.

Any queries should be sent to: wastepermitting@sepa.org.uk

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1. Introduction

This guidance document will help you complete the Paragraph 7(1) exemption notification form to register the treatment of agricultural land with waste for benefit to agriculture. We strongly recommend that this guidance is used when completing the notification.

What you need to do?

[Section 14](#) of this guidance has a comprehensive checklist of all the information you need to submit, this includes:

- The Waste Management Licensing (Scotland) Regulations 2011 (to be known as WMLR throughout this document) paragraph 7(1) exemption notification form;
- a map that illustrates where the activity will be carried out and the boundaries of that land;
- chemical analysis of the waste(s) that will be used;
- soil analysis of the land that is to be treated;
- a pollution risk assessment;
- proof that the waste will provide agricultural benefit (please see Section on how to use the SEPA Agricultural Benefit Calculator); and
- the appropriate fee.

This information must be submitted at least 21 days before you intend to start the activity (including storage prior to spreading).

If you need help completing and/or providing any of the above information, please contact wastepermitting@sepa.org.uk.

If you do not complete the notification fully and include all the required supporting documentation, we may return or refuse the notification for not containing sufficient information to carry out an assessment of the benefit to agriculture as required in WMLR.

2. Contact Details (Questions 1 and 2)

Q1 Contact details of who will be carrying out the activity.

Q2 Contact details of the person completing the form.

These questions ask for details about the different people or organisations involved in the activity and completing the notification:

Question 1

- Question 1 of the form must detail who will be carrying out the land treatment activity. This may be a farmer or a land treatment contractor. They will have overall responsibility for carrying out the treatment activity and will be operating the treatment equipment and be responsible for application rates and times.
- You cannot change who is carrying out the activity in a renewal notification. If who is carrying out the activity changes, you will have to submit a notification for a **new** registration. If the Notification holder has changed, please contact SEPA Permitting.
- If a large company wants to take responsibility for the waste but is not doing the spreading themselves then, in principle, it should be the person who has control of the spreading that should be entered. If the company sub-contracts the spreading to the farmer, it should be the company. If the farmer gets the material delivered to their farm and is stored there, it should be the farmer. However, it is possible to state: the farmer (name) on behalf of the company (name).
- Please note that we will send the completed registration documentation and any renewal notice to the entity detailed in Question 1.

Question 2

- This question must only be completed where the notification is completed by a third party on behalf of who is carrying out the activity (see guidance in Question 1), for example a consultant or a waste producer.

- They do not have direct responsibility for the treatment activity but are providing a service to who will be carrying out the treatment activity (the entity listed in Question 1).
- If completed, this is who we will contact if we have questions on the information submitted. This person will be copied in in the renewal notice.

3. New Activity or Renewal (Question 3)

Question 3 asks whether:

- You are registering a new activity for the first time; or
- You are renewing an existing activity which is currently registered.

Select the option that applies to you.

Question 3

You wish to register a new activity for the first time:

- When registering the activity for the first time, it is advisable to register all the potential land that may be treated in the upcoming and future years. This is because when you renew the notification in subsequent years, you will not be able to add additional land that was not previously registered under this exemption.
- If you wish to add land, you must submit a new notification with the necessary information rather than a renewal.
- You may reduce the area registered but you will not be able to add this land back later.
- The fee you pay is based on the area of land you intend to apply waste to each year. Please see [Section 11](#) for further information.

You wish to renew a registration for a currently registered activity:

- The registration must be renewed each year. If you select this option, you should provide the previous registration reference number (e.g. WMX/W/1234567 or WML/XC/1234567).
- You cannot add land at the renewal stage. If you wish to add land, you must submit a new notification with the necessary information rather than a renewal.
- You may remove land at the renewal stage but you will not be able to add this land back later unless you submit a new registration.

You wish to register a new activity for which the registration has lapsed:

There are circumstances when land bank is registered for a period and then this registration lapses, for instance:

- The registration expired prior to notifying SEPA of intended renewal;
- Additional land is added to an existing registration, legally requiring a notification to be submitted as a new registration;
- The land bank particulars remain the same but the waste types change;
- The land bank area (in hectares) remains the same but the fields/locations change.

4. Location (Questions 4 to 7)

- Q4 Where will the activity take place?
- Q5 Map
- Q6 Is any part of the land that will store or be treated with waste within 10 m of the water environment (e.g. rivers, burns, lochs)?
- Q7 Do you have permission of the landowner and all necessary consents to undertake the activity?

Question 4

- The location(s) where the activity will take place must be provided, both full postal addresses and National Grid References (NGRs). In this Section of the form, please enter an NGR to at least eight-figure accuracy for each farm (e.g. NJ 1234 5678). [SEPA's NGR tool](#) can be used.
- In addition, a description of the land where the activity is intended to take place must be provided. This should be an accurate description of the current land use; for example, an arable crop farm.

Limits of the Paragraph 7(1) Exemption:

- It is possible for a single registration of a Paragraph 7(1) exemption to cover multiple farms that are geographically separate and under different ownership or control. There is no limit on the maximum number of farms, however the maximum spreadable area of land that can be registered is 50 hectares. In addition, you must meet the soil sampling requirements (see [Appendix 2](#)).
- "Single farm" is a solitary 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 (IACS) for farm support.
- For both single and multiple farms, the total area of land to be treated must be provided on the Agricultural Benefit Calculator (or equivalent). The SEPA Agricultural Benefit Calculator automatically tallies the areas of the individual fields entered so you do not have to do this manually.

- The maximum quantity of waste that can be stored for any registered Paragraph 7(1) exemption is 1,250 tonnes. This limit applies for both single and multiple farm notifications.

	Maximum spreadable area of land that can be registered	Maximum waste storage limit
Single Farm	No limit	1,250 tonnes of waste
Multiple Farms	50 hectares	1,250 tonnes of waste

Question 5

- You must provide a map that clearly shows:
 - (a) The location and boundary of each area of land to be treated. Each individual area of land must be marked with a unique identifier (e.g. field number).
 - (b) The location and boundary of where the waste will be stored (if applicable).
- The boundaries must stand out and be readily identifiable from any other feature on the map. Boundaries must follow field boundaries. “Fields” marked on the map should not be coloured in such a way that the underlying field boundaries cannot be seen.
- The base map should ideally be an OS map – [SEPA’s NGR tool](#) can be used.
- The map must be at a suitable scale and provide context (e.g. roads, buildings, boundary lines) to identify the location.
- The map must be easy to understand and not contain unnecessary detail. All text / information on the map must be suitably sized and easy to read.

Question 6

- It is a requirement of the exemption that any waste is stored at least:
 - (a) 250 m from any well or borehole used for domestic water supply;
 - (b) 50 m from any well or borehole used for any other water supply; and
 - (c) 10 m from any inland or coastal waters.

Question 6 requires you to identify if any of the waste storage locations are within the above distances for any of the stated features. If waste is to be stored on or applied

to land within 10m of the water environment, please tick yes and provide an explanation of how storage and/or land application will be managed to ensure that the risk of impact on the water environment is minimised.

Best Practice:

In addition to the above requirements of the exemption, there are several best practice measures that we would recommend are implemented to ensure that the activity does not cause pollution of the environment or harm to human health. These are summarised below:

Waste Storage:

Where the waste is not stored in an impermeable container, the land it is stored on should not:

- be waterlogged;
- have an average soil depth of less than 40 cm;
- overlie gravel or fissured rock.

Storage of ash may increase the risk of excessive dust, depending on the type (*e.g.* bottom, fly, *etc.*) and moisture content. You may wish to include this risk in your Pollution Risk Assessment (PRA) and consider either storing it at the farm, place of production, in a container, *etc.* or adding sufficient water at the end of the production process to mitigate this risk.

Waste Application:

You should **not apply** organic fertilisers to land:

- within 10 m of surface water, such as rivers or wetlands; or
- within 50 m of drinking water springs and uncapped wells and boreholes; or
- with an average soil depth of less than 40 cm; or
- that overlies gravel or fissured rock,; or
- that is frozen, waterlogged or covered in snow; or

- that is sloping unless it is ensured that any run-off is intercepted (by means of a sufficient sized buffer or otherwise) to prevent it entering the water environment.

Question 7

- If the activity is being carried out on land which is not within the ownership or control of the person listed in Question 1, then they/you must obtain all consents necessary to enable the activity to be carried out.

5. Type of Waste (Question 8)

- Agricultural land can only be treated with the wastes that are listed in [Appendix 1](#) of this guidance. You should select the six-figure reference number(s) for the waste type(s) you intend to use and enter it on the form (e.g. 02 07 02). Please note that for some EWC codes, the type of waste allowed is restricted to a smaller subset (as described in [Appendix 1](#)) rather than all the wastes listed under a given EWC code.
- In addition to the EWC code, a description of the type of waste being used and the process that generated the waste (e.g. whisky manufacture, sludge from dairy effluent treatment) must be completed as part of question 8. If you know the name of the waste producer(s), please enter as part of your answer to question 8.

6. Storage and application of the waste (Questions 9 to 13)

Question 9

We need to know whether the waste will be stored prior to land treatment. This includes anywhere that the waste is deposited for more than 12 hours prior to use.

On the form you should:

- Tick 'At the location where it is to be used' if you intend to store the waste at the activity site. This means when the storage area is covered by the IACS number of the farm(s); so it could be in storage tanks in the yard, even if the fields receiving the waste are several miles away. The Paragraph 7(1) exemption only covers the storage of waste at the place it is to be used.
- Tick 'At a different location' when it is stored at the producer's site or if it's stored at an intermediate site. If you plan to store the waste somewhere else before you use it (which is not at the producer site), please contact SEPA as this is not permitted under the WMLR Paragraph 7(1) Exemption and a WMLR Paragraph 40 exemption notification may be required for non-liquid waste.

Provide the 8-figure grid reference for the location of the storage (e.g. NJ 1234 5678) only if material is to be stored on the farm. If there is no storage, no information is needed. If there are several treatment areas there may be more than one storage location and the form gives space to enter more than one grid reference.

In WMLR, there is no restriction on using an onsite facility/location to store wastes intended to treat land identified in more than one registered Paragraph 7(1) Activity. This means that a storage location can be cited in more than one notification as long as WMLR are followed, including maximum storage amount of 1250t (see [Question 10 Guidance](#) below for specific rules).

Question 10

- The exemption under Paragraph 7 covers the secure storage of up to 1250 tonnes of waste at any one time. Secure storage means storage in a container, lagoon or a place that all reasonable precautions have been taken to ensure that the waste cannot escape from it and that members of the public are unable

to gain access to the waste. If your proposed storage method is not secure, we will return or refuse the notification as it would not meet the requirements stipulated in WMLR Paragraph 7(1) Exemption.

- WMLR place restrictions on how close to water bodies the waste can be stored. It must be further than 10 metres away from any inland or coastal water, further than 50 metres away from any well or borehole for non-domestic water supply, and further than 250 metres away from any well or borehole for any domestic water supply.
- Also, the land should not be waterlogged, have an average soil depth of less than 40 cm or overlie gravel or fissured rock, except where the fertiliser is stored in an impermeable container. Waste should be stored on ground that is as flat as possible. Where the waste is to be stored on sloping ground, this should be addressed in the risk assessment, for example consideration of the nature of the waste, the degree of slope, and distance to sensitive receptors with mitigation measures to be in place to prevent it entering any watercourse.
- Here you should tell us the storage method (e.g. tank, silo, hardstanding, field heap, etc.), the capacity of the storage and how much will be stored at any one time. If a container or lagoon is used for waste storage, WMLR restrict the storage amount to 90% of the available capacity of that container or lagoon.
- The location(s) of storage facilities), including any intermediate or nurse tanks, should be clearly marked on the submitted maps(s).
- Where the waste is stored directly on land, care must be taken to ensure that the underlying soil or strata does not form a pathway to a sensitive receptor (e.g. sandy soil may be a pathway to groundwater).

Question 11

- Provide the intended start date and completion date for the waste storage. Please note that these dates are when the waste is to be stored and not the dates of this registration. There is no maximum duration of storage stated in WMLR. However, you must remember that some wastes will change or degrade during storage so we recommend you don't store more than you will

use in the next spreading cycle. Where wastes have been stored for an extended period (e.g. several months) additional testing is advised to make sure that they will still deliver the benefits outlined in the ABC and present no additional risks from those identified in the original risk assessment. It also may not be suitable to store waste in some areas during adverse weather expected in winter.

SEPA recommends that to make the best use of the nutrients available, the waste is delivered to the site as close to the time of application as possible and extended storage is minimised. You cannot store waste to be spread on land under paragraph 7(1) unless the activity has been registered. You must give SEPA 21 days' notice before you intend to start the activity (storage and/or spreading).

Question 12

- Provide the intended start date and completion date for the land treatment. Note that these dates are when the waste is to be applied and not the dates of this registration. You must give SEPA 21 days' notice before you intend to start the activity (storage and/or spreading).
- Any fertiliser should be applied 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 nutrient but high liming value should be spread in autumn to ensure the liming effect takes place before sowing next year's crop.

The timing of nitrate fertiliser application is important. Nitrates are very soluble and if applied at a time of low plant-uptake they are prone to loss through leaching and surface runoff. They are also readily converted to gases that are emitted to the atmosphere. As such, fertilisers should be applied as close in time to crop need as possible. Generally, over autumn and winter when temperature is low and day length short, plant growth is much reduced and so the crop need for nitrogen is also much reduced. SEPA would not expect there to be a need to apply additional nitrogen at these times. There are some exceptions to this (e.g. winter oil seed rape can benefit from autumn application of nitrogen in some situations) but **for cereals and grass an autumn application of nitrogen is generally not recommended**. Any

application of a fertiliser with a high available nitrogen content at this time (from October to end January) should be carefully considered to make sure application is **justified for benefit to agriculture**.

Question 13

- Provide details about how the waste will be applied to land (e.g. broadcasting (*i.e.* using a traditional splash plate system), injection or spraying). Wastes with high ammonia content or high odour potential (such as Anaerobic Digestates) should be applied using dribble bar, trailing shoe applicators or shallow injection systems. Application methods perform differently in varying weather conditions, for instance splash plates should not be used during windy conditions due to lack of control and potential for loss of material (please see the [Pollution Risk Assessment](#)).

7. Waste Analysis (Questions 14 & 15)

Question 14

[Appendix 1](#) details the analysis required for each waste type and the recommended methodology to be used.

- We need at least three analyses of waste, the oldest can be up to five years old and the most recent should be a maximum of 6 months old. These must be taken from different batches at least 6 weeks apart. If your analyses are outwith these dates, your notification will be returned or refused.

To allow for timely registration of a paragraph 7 exemption, in certain exceptional circumstances we will accept fewer than three complete waste analyses.

- If three waste analyses are unavailable for a material because it is a new waste, or a change in the process that generates the waste has occurred, the envisaged application rates should take into account a certain amount of potential for variability of the material. Thus, application rates should not result in addition rates and/or soil concentrations being close to limits. A comment about the waste being a new material/arising from a new process should go into the comment section (cell B7 of the additional info worksheet). For any renewal of a paragraph 7 exemption involving this material, the full set of three waste analyses should be provided.
- If three complete waste analyses are unavailable for the material because one or more parameters were not analysed in the past, the envisaged application rates should take into account a certain amount of potential for variability of the material for these parameters. However at least one complete set of waste analyses, encompassing all required parameters, needs to be provided. A comment about the missing parameter(s) should go into the comment section (cell B7 of the additional info worksheet). For any following renewal the full set of three waste analyses, including all required parameters, should be provided.

Question 15

- This relates to the use of animal by-products such as blood and gut content. Where you propose to treat land with this waste type, some form of evidence is required from the local authority in which the waste producer is located to confirm that the waste has been treated in accordance with the Animal By-Products (Scotland) Regulations 2003. This is likely to take the form of an official letter or certificate and a copy of this should be provided.

8. Risk Assessment (Question 16)

Regulation 25(2) of WMLR require that you provide an assessment of the risk of pollution caused by the use of the wastes.

Regulation 17(7) of WMLR also requires that the type and quantity of waste and the method of disposal or recovery are consistent with the **relevant objectives** in Schedule 4.

Schedule 4 of WMLR states that relevant objectives in relation to waste management are ensuring that waste is managed 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.

SEPA has produced a template for you to use to carry out a risk assessment for pollution and to consider how you can adhere to the relevant objectives when spreading waste under a paragraph 7 exemption. For ease of reference we recommend you use this format but it is not mandatory as long as you can demonstrate that:

- the potential risks from waste spreading are identified, in order to ensure that this can take place without harming the environment and human health; and
- suitable mitigations are in place for this.

The potential risks listed on the next page are not exhaustive and some may not apply to your notification; it is your responsibility to identify all **site-specific and waste-specific** risks and mitigations. You can show some risk mitigation methods (buffer zones next to burns/ditches, location/method of waste storage, buffer strips, *etc.*) on the Map(s) which are also required to accompany your notification form (see question 5).

This Risk Assessment must be shared with the person carrying out the land treatment (spreading and storage).

Table 1 – Risk Assessment

TYPE OF POLLUTION	THINGS TO CONSIDER IN ASSESSING RISK	POTENTIAL MITIGATION OPTIONS
Odour	<ul style="list-style-type: none"> • Type(s) of waste and potential to cause odour issues • Storage security and location • Location of “sensitive receptors” such as houses, schools, hospitals, <i>etc.</i> • Method of application <p>SEPA NGR advice and map link (to check for sensitive receptors)</p>	<ul style="list-style-type: none"> • Buffers • Time of treatment and weather conditions, <i>e.g.</i> prevailing wind • Store waste away from sensitive receptors • Demonstrate that method of application reduces odour risk

TYPE OF POLLUTION	THINGS TO CONSIDER IN ASSESSING RISK	POTENTIAL MITIGATION OPTIONS
Run-off to surface water	<ul style="list-style-type: none"> • Gradient of field slope • Weather conditions • Flood risk • Compacted soils • Vicinity of burns/ditches/<i>etc.</i> to fields and treatment activity • Storage security and location • Field drain(s) discharges • Physical characteristics of waste e.g. low dry matter (DM) content • Method of application • Direction of ploughing • Crop • Timing of treatment <p>SEPA Flood Risk map and NGR advice and map link (to check for surface water features)</p>	<ul style="list-style-type: none"> • Buffers • Timing of treatment– not prior to, during or after heavy rainfall or onto frozen ground, not on bare ground • Distance from water bodies: at least 10 m from surface water or wetland • Amount of key nutrients applied does not exceed crop requirements • Mapping flood risk areas in activity area and monitoring flood alerts • Avoid spreading around the location of field drains and their discharge pipes (if present) • Store waste away from potential run-off pathways • Do not spread on fields with a gradient of more than 15° • Demonstrate that method of application is satisfactory
Run-off to adjacent land	<ul style="list-style-type: none"> • Gradient of field slope • Direction of ploughing 	<ul style="list-style-type: none"> • Buffers

TYPE OF POLLUTION	THINGS TO CONSIDER IN ASSESSING RISK	POTENTIAL MITIGATION OPTIONS
	<ul style="list-style-type: none"> • Weather conditions • Flood risk • Compacted soils • Potential pollution pathways between nearby land and treatment activity (e.g. field drains, ditches, burns, etc.) • Storage security and location • Physical characteristics of waste e.g. low DM content • Method of application • Direction of ploughing • Crop • Timing of treatment <p>SEPA Flood Risk map</p>	<ul style="list-style-type: none"> • Timing of treatment – not prior to, during or after heavy rainfall or onto frozen ground, not on bare ground • Mapping flood risk areas in activity area and monitoring flood alerts • Avoid spreading around the location of field drains and their discharge pipes (if present). Store waste away from potential run-off pathways • Do not treat fields with a gradient of more than 15° • Demonstrate that method of application is satisfactory
Leaching of wastes through soils/groundwater	<ul style="list-style-type: none"> • Type(s) of waste • Soil type • Gradient of field slope • Weather conditions 	<ul style="list-style-type: none"> • Buffers • Time of treatment – not prior to, during or after heavy rainfall

TYPE OF POLLUTION	THINGS TO CONSIDER IN ASSESSING RISK	POTENTIAL MITIGATION OPTIONS
into surface water, etc.	<ul style="list-style-type: none"> • Flood risk • Vicinity of burns/ditches/etc. to fields and treatment activity • Storage security and location • Field drain(s) discharges • Method of application <p>SEPA NGR and advice map link to check for surface water features</p>	<ul style="list-style-type: none"> • Distance of at least 50 m from springs and uncapped wells and boreholes • Distance of at least 10 m from all surface water • Land has an average soil depth of greater than 40 cm and does not overlie gravel or fissured rock, except where the application is for forestry operations; • Mapping flood risk areas in activity area and monitoring flood alerts • No more than 250kg/ha of total nitrogen • Do not treat fields with a gradient of more than 15° • Avoid spreading around the location of field drains and their discharge pipes (if present) • Store waste away from potential run-off pathways • Demonstrate that method of application is satisfactory
Chemical reactions caused by mixing wastes	<ul style="list-style-type: none"> • Type(s) of waste • Storage security and location 	<ul style="list-style-type: none"> • Safe location and method of mixing wastes • Awareness of types of reactions waste mixing may have

TYPE OF POLLUTION	THINGS TO CONSIDER IN ASSESSING RISK	POTENTIAL MITIGATION OPTIONS
		<ul style="list-style-type: none"> • Waste proportions • Adding new wastes slowly and carefully to mixture • Using of paddle/stirrer whilst mixing same waste type from different sources (mixing different waste types is not permitted)
<p>Harm to sensitive habitats/species and/or the spreading shall? be in or within 100 metres of a NatureScot Designated Site – please see advice provided after this table.</p>	<ul style="list-style-type: none"> • Type(s) of waste • Location of Designated Sites in/within 100 m of land being treated • Type of Designated Site (Biological/Geological/<i>etc.</i>) – not all relevant • Potential pollution pathways between Designated Sites and treatment activity (<i>e.g.</i> field drains, ditches, burns, <i>etc.</i>) • Gradient of field slope • Storage security and location • Method of application • Direction of ploughing • Crop 	<ul style="list-style-type: none"> • Buffers • Time of treatment – not prior to, during or after heavy rainfall • Time of year of treatment – not at times that may be sensitive to certain species (<i>e.g.</i> breeding, <i>etc.</i>) • Mapping flood risk areas in activity area and monitoring flood alerts • Avoid spreading around the location of field drains and their discharge pipes (if present) • Store waste away from potential run-off pathways • Do not spread on fields with a gradient of more than 15°

TYPE OF POLLUTION	THINGS TO CONSIDER IN ASSESSING RISK	POTENTIAL MITIGATION OPTIONS
	<ul style="list-style-type: none"> • Timing of treatment <p>NatureScot Designated Site map link (tick following Layers: SSSI, SPA, SAC, RAMSAR)</p>	<ul style="list-style-type: none"> • Demonstrate that method of application is satisfactory
Escape of material during treatment	<ul style="list-style-type: none"> • Gradient of field slope • Direction of ploughing • Weather conditions • Flood risk • Compacted soils • Potential pollution pathways between nearby land and treatment activity (e.g. field drains, ditches, burns, etc.) • Physical characteristics of waste e.g. low DM content • Method of application • Direction of ploughing • Crop • Timing of treatment • Nutrient content of soils 	<ul style="list-style-type: none"> • Buffers • Timing of treatment– not prior to, during or after heavy rainfall or onto frozen ground, not on bare ground • Distance from water bodies: at least 10 m from surface water or wetland • Amount of key nutrients applied does not exceed crop requirements • Mapping flood risk areas in activity area and monitoring flood alerts • Avoid spreading around the location of field drains and their discharge pipes (if present) • Store waste away from potential run-off pathways • Do not spread on fields with a gradient of more than 15°

TYPE OF POLLUTION	THINGS TO CONSIDER IN ASSESSING RISK	POTENTIAL MITIGATION OPTIONS
		<ul style="list-style-type: none"> • Demonstrate that method of application is satisfactory – for example splash plates should not be used if the waste is high in ammonia (pot ale would be acceptable but AD digestate would not) • Weather conditions – for example splash plates should not be used in windy conditions
Excessive dust	<ul style="list-style-type: none"> • Type(s) of waste • Dry matter of waste(s) • Location of “sensitive receptors” (houses, habitats, <i>etc.</i>) near land being treated • Method of application • Weather conditions including wind direction <p>SEPA NGR map link (to check for sensitive receptors)</p>	<ul style="list-style-type: none"> • Buffers • Time of treatment • Optimal weather conditions • Increase moisture of waste (if viable) • Demonstrate that method of application is satisfactory
Mirror Entries of EWCs (<i>e.g.</i> 03 01 05, 04 02 15, 04 02 20, 07 07 12,	<ul style="list-style-type: none"> • Type(s) of waste • Type of process waste is produced by • Reliable source of waste(s) <p>Link to European Waste Codes</p>	<ul style="list-style-type: none"> • Demonstrate that waste is not hazardous (details of production process, waste analysis, company source of waste(s), <i>etc.</i>)

TYPE OF POLLUTION	THINGS TO CONSIDER IN ASSESSING RISK	POTENTIAL MITIGATION OPTIONS
17 05 04, 17 05 06)	(see also Appendix 1 of this guidance document)	

Designated Sites:

NatureScot (formerly Scottish Natural Heritage (SNH)) is Scotland's nature agency and regulates sites designated for protection due to their species, habitats or geological features. You can find out if the fields you intend to include in a notification to SEPA are within or near to a Designated Site by searching the map on [this NatureScot website](#).

Where the land you intend to treat with waste falls within a designated site [or within 100 m of a designated site] such as a Site of Special Scientific Interest (SSSI), Special Protected Area (SPA) or Special Area of Conservation (SAC), SEPA expects that the Pollution Risk Assessment submitted with the Notification form includes consideration of the risks to the Site(s) and relevant mitigation. In certain circumstances SEPA will consult NatureScot for its views on the proposed activities.

9. Soil Analysis (Question 17)

[Appendix 2](#) details the soil analysis required, the recommended testing method to be used and how to take soil samples.

- We need analyses of soils for each field and/or every 10ha area. SEPA requires a sample for every field. Where the treatable area of a field is greater than 10 hectares we require a sample for each 10 hectare or part thereof (please see [Appendix 2](#) for further information).

In assessing benefit to agriculture, recent analysis is preferred as it reflects more accurately the present condition of the soils. Soil analysis for pH, P, K and Mg should be no older than three years at the time of submission of the notification (including renewal). However, analysis of PTE and organic matter can be up to ten years prior to the submission of the notification.

10. How to complete the Agricultural Benefit Calculator (Question 18)

This Excel workbook (Agricultural Benefit Calculator spreadsheet) cannot be used for soils from potato washing (02 03), soil and stones (17 05 04 and 20 02 02) or dredging spoil (17 05 06) as these are not organic materials and will require different analysis. If these are being used (e.g. to level uneven land or to replace topsoil lost through erosion) please contact SEPA at wastepermitting@sepa.org.uk to discuss how to demonstrate Agricultural Benefit from use of these wastes.

Wastes must be applied to land to provide agricultural benefit. These benefits include:

- The waste will increase crop yield/quality.
- The waste will improve the chemical properties of the soil (e.g. pH).
- The waste will improve the physical properties of the soil (e.g. tilth).
- The waste will improve the biological properties of the soil.
- The waste will improve any soil moisture deficit.
- The waste will have other benefits.

Information supplied in the Agricultural Benefit Calculator (ABC) will allow you to demonstrate how the application of the amount and type of waste will result in the desired agricultural benefit.

SEPA needs information on each individual field where the waste(s) will be spread and on the waste(s) that will be applied. This will enable us to assess the impact of the treatment. For convenience we have provided an Excel workbook for you to record the information. If you are using the SEPA ABC, you must complete the yellow cells with the information SEPA needs to assess the registration. Blue cells may require input depending on the site-specific circumstances. Many have drop-down lists for you to select the appropriate information.

Please note: whether you use the ABC or another method, failure to provide sufficient evidence to support the claim of agricultural benefit will result in your notification being returned or refused.

Completing the ABC

The ABC is an Excel spreadsheet. There are eight worksheets:

- [Summary](#)
- [Field Information 1](#)
- [Field Information 2](#)
- [Soil Results](#)
- [Waste Results](#)
- [Additional Information](#)
- [Assessment](#)
- [Fertiliser Recommendations](#)

The instructions below detail what's required for each worksheet.

Summary Worksheet

This worksheet will automatically update the information shown as you complete the individual worksheets.

For cell F8 and G8 use the drop-down list.

You must provide details of the technical and professional expertise of the person completing the spreadsheet. This will be a combination of qualifications and experience.

The physical form of the waste will automatically populate once the waste analysis results are entered.

- Dry (DM>90%)
- Solid (DM between 25% and 90%)
- Sludge (DM between 10% and 25%)

- Liquid (DM<10%)

This should be considered within the pollution risk assessment, as it dictates what risks may occur from land treatment (e.g. dust from dry waste, run-off into watercourses from liquids, etc).

After completing the information in all relevant worksheets there may be numbers or text in red or white writing highlighted in red background on the Summary worksheet. Cells containing red text/numbers highlight issues that should be noted, and we assume that where these occur, they will prompt you to check the data you have entered or implement precautions to ensure that waste spreading is undertaken in a manner that achieves benefit to agriculture without undue risk to the environment or human health.

Cells with white text and a red background indicate issues that will likely result in a refusal of your notification (such as missing data, or potential overapplication of nutrients). You are advised to check the information in the relevant worksheet(s) and adjust where necessary (e.g. reduce the proposed application rate in the Field information 2 worksheet). If the results of the ABC show no agricultural benefit (cell E69) or any of the red background cells cannot be resolved, a justification must be provided in the additional info worksheet.

Field Information 1 Worksheet

You should record all the fields you may want to apply waste to under this exemption, even if you don't intend to apply waste to them every year. You will not be able to add fields at the annual renewal. You can enter up to 100 fields.

For renewals, all data in this worksheet should be copied into a new workbook. Field name/identifier (column B): this should be the same as the submitted map.

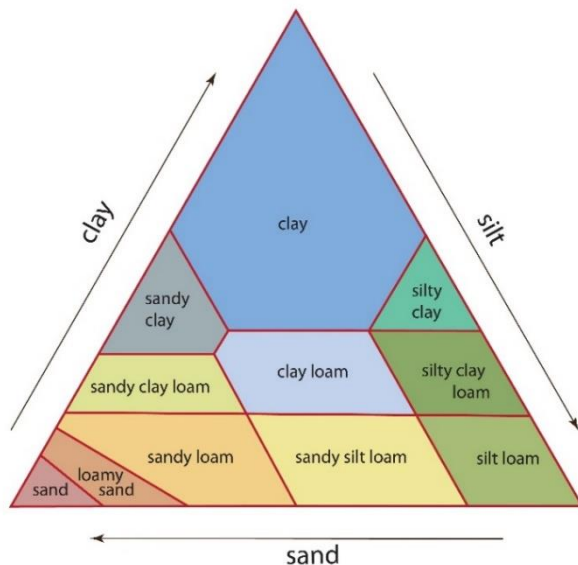
8 figure (or more) grid reference (column C): use the grid reference that is approximately the middle of the field. Use the following format: NS 1234 5678. You can use the [SEPA NGR map](#) to check the field's National Grid Reference.

Treatable area (column D): this is the area of land that you can apply the waste to during this exemption period or in the future. It does not include land that will not receive waste such as buffer strips, tree belts, etc.

Soil texture (column F): this refers to the overall feel of the soil, which reflects the proportion of sand, silt and clay particles, and often the amount of organic matter mixed with them. Select the most appropriate classification from the drop-down list. Where the organic matter is above 10% select the “class” based on organic matter content. For fields in new notifications which won’t receive waste in the next 12 months but are being listed in the notification because they may receive waste applications at some point after a future renewal, this section can be left blank.

Soil texture triangle and texture class abbreviations:

Soil texture should be established with reference to the UK-ADAS soil texture triangle which classifies soil according to the relative proportions of clay, silt and sand (please see diagram below). This will affect the drainage of the soil and the likelihood of run-off. Soil texture also influences the amount of lime required for optimum crop growth and the P-sorption capacity of the soil. Soil texture does not need to be determined *via* lab analysis; results from a hand texture test by an experienced individual are acceptable.



Abbreviations used in the ABC

Sand	S
Loamy sand	LS
Sandy loam	SL
Sandy silt loam	SZL
Silt loam	ZL
Sandy clay loam	SCL
Clay loam	CL
Silty clay loam	ZCL
Sandy clay	SC
Silty clay	ZC
Clay	C

Field Information 2 Worksheet

This worksheet covers the field information required for the length of this exemption period (12 months).

The field details will automatically populate with the field names from the Field Information 1 worksheet. If the name on the soil analysis record differs from the field

name, enter the name used on the soil analysis record in column F. This also applies where a combined soil sample from several fields was taken. If you have a soil sample that represents several smaller fields, you must enter the same data in each field row. You cannot treat such fields differently.

Select the crop type that will benefit from the waste application from the drop-down list. Please note, for grassland types you need to scroll the right-hand side bar upwards.

If grassland fields are part of a rotation with arable fields, you can assess liming requirements by selecting “yes” or “no”. This is only required when the waste is applied for liming purposes.

Application rates entered should match the accuracy of the spreading equipment. For sludge and solid waste we would usually expect spread rate to be multiples of 5t/ha and a minimum spread rate of 5t/ha. For liquid waste we would expect a whole number and a minimum spread rate of 1t/ha. Lower spread rates may be possible, but you should check with the waste spreader that their machinery can achieve that degree of accuracy.

For the waste material give a brief description in cell M4 and the EWC code in cell M5. If applicable populate the cells for waste material 2 and 3 accordingly. If you plan to spread more than one waste, enter the waste material with liming properties first. For each field enter the amount of waste material *per* application in total in column L (N and P) and the maximum amount *per* treatment in column M (O and Q).

Where waste material is mixed with manure or slurry but only the waste material has been analysed and not the mix, enter manure or slurry (specify from which animal) under waste material 2, enter xx for the EWC, and enter the application rates according to the mixing ratio. For example, if the material is a 20:80 waste to non-waste mix and the total application rate of this mix will be 50t/ha, enter 10t/ha for the waste and 40t/ha for the non-waste material.

Where waste material is mixed with manure or slurry and the mixture has been analysed, select yes in cell M7 (O7, Q7), specify the non-waste material in cell M8 (O8, Q8) and enter the percentage of waste material in the mixture in cell M9 (O9, Q9). For example, if the material is a 20:80 waste to non-waste mix, enter 20.

Nutrient addition should not exceed the crop need for any one 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 permit under the Pollution Prevention and Control (Scotland) Regulations 2012.

Soil Results Worksheet

In assessing benefit to agriculture, recent analysis is preferred as it reflects more accurately the present condition of the soils. Soil analysis results for pH, P, K and Mg should be no older than three years at the time of submission of the notification (including renewal). However, analysis of PTE and organic matter can be from up to ten years prior to the submission of the notification unless the soil PTE concentration exceed 90% of the maximum (see cell E64 on the Summary worksheet). In this case, analysis should be no older than 5 years. Enter the date of soil analysis (sampling date) in cell C4 and where PTE or organic matter data is older, enter this in cell I4. If soil analyses derive from several dates always enter the oldest date.

For those fields receiving waste, the field name and, where applicable, the lab sheet name will automatically populate. Please note, all field names will have an added "A" at the end. For fields where the treatable area is >10 ha, the field name will be repeated as often as required followed by "B", "C", etc. In total, data for up to 150 soil analyses can be entered.

Where soil analysis is a combined sample of several fields, enter the data for each field the sample covers.

Where required, select the correct analysis method (row 7) and unit (row 8).

You must enter only numerical values in the ABC. Where the result is under the detection limit just enter the number, do not enter the symbol "<". Analysis results showing greater than (>) values will not be accepted. Providing a result(s) only as a 'greater than' value, e.g. >10, will lead to your notification being refused as this does not allow accurate assessment of the soil condition. Please note, the number of digits shown is restricted but all digits entered will be used in calculations.

You must also provide a hard copy of the results on headed paper from the laboratory that carried out the analysis. This should clearly show the tests used and any accreditations held. It is your responsibility to ensure analysis data provided are correct.

If you believe that a value is incorrect, you must reanalyse the sample or collect a new sample and analyse that one before submission.

Waste Results Worksheet

To make a full assessment, SEPA needs at least three analyses of waste *per* waste material, the oldest can be up to five years old and the most recent should be a maximum of 6 months old. These must be taken from a different batch at least 6 weeks apart. If your analyses are outwith these dates, your notification will be refused. No assessment will be made if less than three analysis results are entered.

If you are planning to spread more than one waste, scroll down to rows 38 and 74, to enter data for waste materials 2 and 3, respectively.

If you mix the waste with manure or slurry, but don't provide analyses for the mixture, then you need to provide data for the manure or slurry separately as you would do with a second waste material. These can be generic average data.

You must also provide a hard copy of the results on headed paper from the laboratory that carried out the analysis. This should clearly show any accreditations held by the laboratory for each test, with test methods used and units, and clearly state whether these are on a dry weight or a fresh weight basis. It is your responsibility to ensure analysis data provided are correct. If you believe that a value is incorrect, you must reanalyse the sample or collect a new sample and analyse that one before submission.

The date given should be the sampling date. If that is not available enter the date received at the analysing lab, not the date the result was reported by the lab.

Please take care to select the right unit (column C) for each parameter, as it will influence the calculations.

You must enter only numerical values in the ABC. Where the result is under the detection limit just enter the number, do not enter the symbol "<". Analysis results showing greater than (>) values will not be accepted. Providing a result(s) only as a 'greater than' value, e.g. >10, will lead to your notification being refused as this does not allow accurate

assessment of the waste characteristics. Note, the number of digits shown is restricted but all digits entered will be used in calculations.

To allow for timely registration of a paragraph 7 exemption, in certain exceptional circumstances, we will accept fewer than three complete waste analyses:

- If three waste analyses are unavailable for a material because it is a new waste, or a change in the process that generates the waste has occurred, the envisaged application rates should take into account a certain amount of potential for variability of the material. Thus, application rates should not result in addition rates and/or soil concentrations being close to limits. A comment about the waste being a new material/arising from a new process should go into the comment section (cell B7 of the additional info worksheet). For any renewal of a paragraph 7 exemption involving this material, the full set of three waste analyses should be provided.
- If three complete waste analyses are unavailable for the material because one or more parameters were not analysed in the past, the envisaged application rates should take into account a certain amount of potential for variability of the material for these parameters. However at least one complete set of waste analyses, encompassing all required parameters, needs to be provided. A comment about the missing parameter(s) should go into the comment section (cell B7 of the additional info worksheet). For any following renewal the full set of three waste analyses, including all required parameters, should be provided.

Additional Info Worksheet

Please check the Summary worksheet for any issues identified. If, after completing all potential corrections, you feel the application of waste material is justified but there are still cells showing a red background, please provide the relevant information/explanation in cell B7.

When submitting a renewal, if any fields were previously identified as requiring lime and have not subsequently been removed from the exemption, you need to confirm that these fields have been limed, either by providing a new soil analysis, or by selecting the drop-down wording 'I confirm that all fields receiving waste that were identified as

requiring lime have been limed' in cell B4 of the additional info worksheet. The ABC will identify a requirement for liming where soil pH is 5.2 or lower.

Assessment Worksheet

This worksheet is for information only. It provides details on the assessment carried out. For each parameter and field, a short comment is provided.

Fertiliser Recommendation Worksheet

This worksheet is for information only and shows the numbers on which the fertiliser requirement calculations are based.

11. Fee and Payment (Questions 19 & 20)

The fees for April 2023 until the end of March 2024 are:

Registrations: **£782** for the first 50 ha and **£261** for each additional 50 ha block

Renewals: **£605** for the first 50 ha and **£261** for each additional 50 ha block

For registrations after this date, please check the charging scheme pages on our [website](#).

The fee you pay is based on the area of land that you want to apply waste to each year (“treatable area”), and not the total amount of land you have available. For an initial notification, you record the treatable area of **all** your fields in the spreadsheet and indicate which fields you intend to apply waste to in the coming 12 months. Each time you renew, you indicate which fields will receive waste in the following year which may be different to the initial registration treatable area. This means you can change the fields you apply waste to each year without having to submit, and pay for, a new registration. Please note, the total area receiving waste in that year can be seen on the summary worksheet, cell E15.

If you intend to apply waste to an area less than 50 hectares, regardless of the total area of treatable land available, the fee is **£782**. If the area you intend to apply waste to is on a single farm and is more than 50 hectares, the fee is **£782** plus an additional **£261** for each additional 50 ha. Note that additional 50 ha blocks must be on the same single farm.

SEPA can accept payment by bank transfer (BACS) to the account noted on the form, or by our online card payment facility ([quickpay](#)). You will be given a receipt which should be attached as proof of payment.

If you cannot use either of these methods for payment and need to pay by cheque, please contact wastepermitting@sepa.org.uk

12. Declaration

This Registration/Renewal notification form is a legal document and it is the responsibility of the person completing it to ensure that the information provided on the form and in supporting documents, to the best of their knowledge, is correct.

13. How to submit your form

The quickest way to submit your form and additional information is *via* email to registry@sepa.org.uk

If email is not available to you then you can post your application to the SEPA Registry Office:

Angus Smith Building
6 Parklands Avenue
Eurocentral
Holytown
North Lanarkshire
ML1 4WO
Tel: 01698 839000

14. Checklist

The Notification Form can only be assessed if all the appropriate information and documents are provided. This applies both to a notification to register a new activity or a renewal of an existing exemption which is already registered. This checklist summarises the requirement covered in this Guidance:

Documentation required	Description
Notification Form	Please ensure that all sections of this Form are completed accurately and clearly.
Location Plan	<p>A plan of each place where the exempt activity will be carried out showing the boundary of that place (<i>i.e.</i> the fields or farm boundaries) and the locations within that place at which the exempt activity is to be carried out (<i>i.e.</i> the parts of the fields or places that are suitable for treatment). The plan should clearly show, with all text readable, field boundaries, sensitive receptors (<i>e.g.</i> ditches, wells and water courses) and required buffer strips of the correct width. All fields should be clearly labelled, and the same identifier should be used on the Field information 1 worksheet of the ABC.</p> <p>SEPA requires that the plan(s) also shows the location of the storage place.</p> <p>The plan(s) should be clear and legible and based on either a satellite image of the land to be treated or an OS map of that land.</p>

Documentation required	Description
A Certificate of Agricultural Benefit from person with appropriate technical/professional expertise or the Agricultural Benefit Calculator (ABC)	You must demonstrate how the treatment will result in agricultural benefit. This shall be prepared by, or based on, advice from a person who, in the opinion of SEPA, has appropriate technical or professional expertise. SEPA has provided a spreadsheet for your convenience. If you require information on this requirement, see Section 10 of this guidance document. If you are unable to use the Excel workbook, please contact wastepermitting@sepa.org.uk
Pollution Risk Assessment	See Section 8 (Question 16) of this guidance document. An assessment of the risk of pollution caused by the treatment must be provided.

Documentation required	Description
<p>Chemical Analysis of the waste to be used (3 separate batches; see Section 7) and the soil which is to be treated.</p>	<p>Analysis of the waste(s) to be applied and the soil to which it is to be applied. See Appendix 1 and Appendix 2 for details on the parameters to be tested for each waste type and soil respectively and for the reporting units and testing methods (where appropriate).</p> <p>All results must be presented with the original laboratory report(s), which must indicate the name and address of the laboratory that carried out the test, the date of testing and the analysis method used. The accreditation status of each test result should also be indicated clearly and the UKAS logo and the laboratory's UKAS registration number, where applicable, should be displayed with the results. Where analyses are subcontracted by one laboratory to another, this must be clearly indicated. Original analysis reports from the subcontracted laboratory must be supplied; reproducing results from the subcontracting laboratory's analysis report(s) alone will not be accepted.</p> <p>Note that if you propose to apply waste compost or digestate on land you must submit analysis of the concentration of total physical contaminants and detail any plastic contamination element separately.</p>

Documentation required	Description
Where waste type 020203 is used, evidence confirming that the waste is treated in accordance with Animal By-Products (Scotland) Regulations 2003 and Regulation (EC) 1069/2009	Where it is proposed to treat with 02 02 03 some form of evidence is required to confirm that the waste has been treated in accordance with these regulations. This may take the form of an official letter from the Local Authority or Animal and Plant Health Agency or information demonstrating that the waste production premises is an ABP approved premises.
Payment	<p>For April 2023 until the end of March 2024:</p> <p>Registrations: £782 for the first 50 ha and £261 for each additional 50 ha block</p> <p>Renewals: £605 for the first 50 ha and £261 for each additional 50 ha block</p> <p>For notifications after this date, please check the charging scheme pages on our website.</p>

15. Refusal or removal from Public Register

SEPA can refuse to register the activity described in the Notification Form.

Reasons for SEPA refusing to register an activity include the following:

- Information required on the Notification Form is absent or accompanying documents are not provided or are substandard.
- Information in the Notification Form (or in accompanying documents) does not meet the conditions and limitations of the relevant paragraph of Schedule 1 of WMLR (in this case paragraph 7(1)). (For example, the storage of waste is not considered to be secure).
- The map(s) does not show the requisite details or is unclear.
- You do not pay the correct fee.
- The type and quantity of waste and the method of disposal or recovery are not consistent with attainment of the objectives in Schedule 4 of WMLR (the 'relevant objectives').
- The information provided does not demonstrate that the activity will result in 'agricultural benefit'.

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?

- 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 the full assessment of the notification that it is inappropriate to treat a specific field due to potential pollution risk or lack of evidence of benefit to agriculture, SEPA will give the operator five working days (where the 21 day time period allows) to amend their notification. This is one of the reasons an assessment is required for each field.

In most cases SEPA will carry out an initial “Duly Made” check of notifications and attempt to resolve these by returning the notification highlighting the changes required before resorting to refusal of a notification. Please note: in these cases, the potential date for registering the notification may be delayed to allow the person completing the notification to correct the information and this may impact treatable area periods. Please note: SEPA has the power to remove an entry from the Register relating to an exempt activity in certain circumstances listed in regulation 22 of WMLR. These are:

- The entity described in Question 1 no longer exists or is no longer carrying out the activity;
- The activity is no longer being carried out in compliance with any of the conditions or limitations of the relevant exemption;
- The operator fails to meet the Registration Obligations (see below for more details on these obligations); and
- The type and quantity of waste and method of disposal or recovery are not consistent with the attainment of the objectives in Schedule 4 of WMLR (Relevant Objectives) (see Section 8, Pollution Risk Assessment).

The continuation of the activity in circumstances where the activity is no longer exempt from the requirement to have a waste management licence is an offence.

Registration Obligations. These are:

- Giving at least 21 days’ notice prior to starting the land treatment activity, including accepting material for storage;
- Keeping records of the quantity, nature and origin of the waste applied to the land under the notification;
- Keeping records for 2 years;
- Submitting or making records available to SEPA on request.

16. Further guidance and support

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

Prevention of environmental pollution from agricultural activity: guidance ([PEPFAA Code](#))

Prevention of environmental pollution from agricultural activity: [dos and don'ts guide](#)

[RB209 Section 1](#) Principles of nutrient management and fertiliser use. AHDB (2020)

[RB209 Section 2](#) Organic materials. AHDB (2021)

[RB209 Section 3](#) Grass and forage crops

[RB209 Section 4](#) Arable crops. AHDB (2021)

[RB209 Section 5](#) Potatoes. AHDB (2021)

[RB209 Section 6](#) Vegetables and bulbs. AHDB (2021)

Technical Note TN481: Risks from Spreading Liquid Waste on Sloping Ground (1999)
Scottish Agricultural College (can be purchased online)

[TN656](#): Soils information, texture and liming recommendations. SRUC (2014)

[TN668](#): Managing soil phosphorus. SRUC (2015)

[TN685](#): Sulphur recommendations for crops. Farm Advisory Service (2017)

[TN699](#): Agricultural use of biosolids composts anaerobic digestates and other industrial organic fertilisers. Farm Advisory Service (2019)

[TN714](#): Liming materials and recommendations. Farm Advisory Service (2019)

[TN715](#): Phosphate and potash recommendations for crops grown in Highland and Islands. Farm Advisory Service (2019)

[TN716](#): Phosphate and potash recommendations for crops grown in South West Scotland. Farm Advisory Service (2019)

[TN717](#): Phosphate and potash recommendations for crops grown in North East Scotland and Tayside. Farm Advisory Service (2019)

[TN718](#): Phosphate and potash recommendations for crops grown in Fife, Lothian and Scottish Borders. Farm Advisory Service (2020)

[TN726](#): Fertiliser recommendations for grassland. Farm Advisory Service (2019)

[TN731](#): Nitrogen recommendations for cereals, oilseed rape and potatoes. Farm Advisory Service (2020)

[TN734](#): Fertiliser recommendations for vegetables, minority arable crops and bulbs. Farm Advisory Service (2020)

[Code of Practice for Landspreading Paper Mill Sludge](#) (2015) The Paper Federation of Great Britain.

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

Appendix 1 – Waste (EWC) Codes and Analysis

General information on waste analysis and data provision

Waste must be analysed for:

- Percentage dry solids content
- pH
- Organic matter or total carbon
- Total content of major nutrients (nitrogen, phosphorus, potassium and magnesium) and ammonium nitrogen or readily available nitrogen (exception: ammonium nitrogen/available nitrogen analysis is not required for materials generally low in nitrogen (e.g. calcium carbonate, gypsum, woody material, and biomass ash).
- Potentially toxic elements (PTE); these are cadmium (Cd), chromium (Cr), copper (Cu), mercury (Hg), nickel (Ni), lead (Pb), Zinc (Zn)
- Neutralising value - if the waste has been subject to lime treatment for stabilisation or pathogen destruction purposes
- Where appropriate, additional parameters listed in the table 4 below

SEPA expects all waste materials to be analysed for points 1-5 in the above list.

Recommended analysis methods for each of these are listed in Table 3 in this Appendix.

The WMLR give a list of tests that may be required for certain waste streams “where appropriate”. Those parameters in bold in Table 4 of this Appendix are those which SEPA considers to be appropriate in most cases. If you do not think your waste needs to be tested for a particular parameter this should be justified in the Risk Assessment (see Section 8 of this guidance document). Analysis for parameters in normal type may be required if your risk assessment indicates that these may be present in the waste you intend to spread at concentrations that are high enough to have a negative impact on the environment and/or human health, or if SEPA requests that you analyse your waste for them.

SEPA can require additional analyses over and above the basic parameters and those in Table 4 for particular waste types or sources. This is more likely for novel waste types or in the event of an emerging issue with a particular source or type of waste.

On renewal SEPA may accept a reduced analysis of the waste. This should be discussed with our waste permitting team (wastepermitting@sepa.org.uk) prior to submission but minimum requirements are likely to include evidence of what the waste will provide in terms of agricultural benefit and of any risks associated with the waste (e.g. nutrients and copper for distillery waste).

All results must be presented with the original laboratory report(s), which must indicate clearly the name and address of the laboratory that carried out the test, the date of testing and the analysis method used. The accreditation status of each test result should also be indicated clearly and the UKAS logo and the laboratory's UKAS registration number, where applicable, should be displayed with the results. Where analyses are subcontracted by one laboratory to another, this must be clearly indicated. Original analysis reports from the subcontracted laboratory must be supplied; reproducing results from the subcontracting laboratory's analysis report(s) alone will not be accepted.

How old can my waste analysis be?

We need at least three analyses of waste, the oldest can be up to five years old and the most recent should be a maximum of 6 months old. These must be taken from a different batch at least 6 weeks apart. **If your analysis is outwith these dates, your notification will be rejected and returned to you.**

You must also provide a hard copy of the results on headed paper from the laboratory that carried out the analysis. This should clearly show the accreditations held and the tests used.

Table 3 – Recommended waste analytical methods

Parameter	Unit	Preferred method ¹
Tests for all wastes		
Dry matter (DM), dry solids (DS)	% (w/w) fresh weight	BS EN 14346: 2006 (Gravimetric method)
pH	n/a	BS EN 13037:2011 (Extraction in calcium chloride solution, extraction in

Parameter	Unit	Preferred method ¹
		potassium chloride solution, or extraction in deionised water)
Total carbon (Ct), Organic carbon (Corg) or Loss on ignition (LOI)	% or mg/kg	BS EN 15936:2012 (Dumas (combustion) method), or BS EN 15169:2007 / BS EN 13039:2011 (Loss on ignition)
Total nitrogen (Nt)	%, mg/l (fresh weight) or mg/kg	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/l (fresh weight) or mg/kg	BS EN 13652:2001
Total phosphorus (P)	%, mg/l (fresh weight) or mg/kg	BS EN 13650:2001 (Aqua Regia digest)
Total potassium (K)	%, mg/l (fresh weight) or mg/kg	BS EN 13650:2001 (Aqua Regia digest)
Total magnesium (Mg)	%, mg/l (fresh weight) or mg/kg	BS EN 13650:2001 (Aqua Regia digest)
Cadmium (Cd)	mg/l (fresh weight) or mg/kg	BS EN 13650:2001 (Aqua Regia digest)
Copper (Cu)	mg/l (fresh weight) or mg/kg	BS EN 13650:2001 (Aqua Regia digest)

Parameter	Unit	Preferred method ¹
Chromium (Cr)	mg/l (fresh weight) or mg/kg	BS EN 13650:2001 (Aqua Regia digest)
Nickel (Ni)	mg/l (fresh weight) or mg/kg	BS EN 13650:2001 (Aqua Regia digest)
Lead (Pb)	mg/l (fresh weight) or mg/kg	BS EN 13650:2001 (Aqua Regia digest)
Zinc (Zn)	Mg/l (fresh weight) or mg/kg	BS EN 13650:2001 (Aqua Regia digest)
Test method where relevant for the waste material concerned		
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

Table 4 – EWC Codes and Testing. Parameters indicated in **bold type** are required for wastes with the corresponding EWC code. Analysis for parameters in normal type may be required¹. Further information on microbiology and prescribed substances is given below/after the table.

EWC Code	Description of waste allowed to be used.	Additional Testing required
01 04 12	Calcium carbonate from the washing/cleaning of hectorite	Neutralising value , electrical conductivity
02 01 03	Plant tissue waste from agriculture, horticulture, aquaculture, forestry, hunting and fishing	Prescribed substances
02 01 03	Biochar from untreated wood waste from agriculture, horticulture and forestry activities	Neutralising value
02 01 99	Straw, wood or paper-based bedding waste, slurry or dirty water from stables, zoos, animal parks or livestock markets, animal faeces, urine and manure	BOD
02 02 03	Materials unsuitable for consumption or processing consisting of blood and gut contents from abattoirs, poultry preparation plants or fish preparation plants; wash waters and sludges from abattoirs, poultry preparation plants or fish preparation plants; and shells from shellfish processing	Microbiology , Oils and fats, BOD , electrical conductivity
02 03	Wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation – all wastes under this category	BOD <i>If the waste material is soils from potato washing samples should be analysed for extractable, not total phosphorus, potassium and magnesium</i>

**These wastes are mirror entries which means you will need to ensure that they are suitable for use and do not contain hazardous compounds. This may be through waste analysis.*

¹ Analysis required if your risk assessment indicates that these may be present in the waste you intend to spread at concentrations that are high enough to have a negative impact on the environment and/or human health.

EWC Code	Description of waste allowed to be used.	Additional Testing required
02 04	Wastes from sugar processing – all wastes under this category	BOD
02 04 01	Soil from cleaning and washing beet from sugar processing	<i>Samples should be analysed for extractable, not total phosphorus, potassium and magnesium</i>
02 05	Wastes from the production of dairy products	Oils and fats, BOD
02 06	Wastes from the baking and confectionary industry – all wastes under this category	BOD
02 07	Wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa) – all wastes under this category	BOD
03 01 01	Waste bark and cork from wood processing and the production of panels and furniture	Prescribed substances
03 01 05*	Sawdust shavings, cuttings, wood, particle board from wood processing and the production of panels and furniture	
03 03 01	Waste bark and wood (including virgin pulp) from pulp, paper and cardboard production and processing	
03 03 09	Lime mud waste from pulp, paper and cardboard production and processing	Neutralising value, Prescribed substances

**These wastes are mirror entries which means you will need to ensure that they are suitable for use and do not contain hazardous compounds. This may be through waste analysis.*

EWC Code	Description of waste allowed to be used.	Additional Testing required
03 03 11	Sludges from on-site effluent treatment plants treating only virgin paper wastes which contain no inks from pulp, paper and cardboard production and processing	Neutralising value, Prescribed substances
03 03 99	De-inked paper sludge from paper recycling, paper crumble derived from virgin pulp which contains no inks from pulp, paper and cardboard production and processing	
04 01 07	Sludges, in particular from on-site effluent treatment free of chromium from the leather and fur industry	Oils and fats, Prescribed substances, BOD
04 02 10	Organic matter from natural products (for example grease, wax) from the textile industry	Oils and fats, BOD
04 02 15*	Wastes, from the textile industry, from finishing other than those containing organic solvents	
04 02 20*	Sludges from on-site effluent treatment from the textile industry	
04 02 21	Wastes, from the textile industry, from unprocessed textile fibres	
04 02 22	Waste, from the textile industry, from processed textile fibres	
06 01 99	Gypsum from the manufacture, formulation, supply and use (MFSU) of acids	
07 07 12*	Sludges from on-site effluent treatment other than those containing dangerous substances from MFSU of fine chemicals and chemical products not otherwise specified	prescribed substances

**These wastes are mirror entries which means you will need to ensure that they are suitable for use and do not contain hazardous compounds. This may be through waste analysis.*

EWC Code	Description of waste allowed to be used.	Additional Testing required
10 01 01	Bottom ash from the combustion of biomass ²	Neutralising value, prescribed substances (dioxins and furans)
10 01 99	Gypsum from power stations and other combustion plants (except wastes from waste management facilities, off-site wastewater treatment plants and the preparation of water intended for human consumption and water for industrial use)	Neutralising value, sulphate, Prescribed substances
10 13 04	Gypsum from manufacture of cement, lime and plaster and articles and products made from them	Neutralising value, sulphate
17 05 04*	Soil and stones (but no dangerous substances)	Prescribed substances (excavated soil from contaminated sites). <i>Samples should be analysed for extractable, not total phosphorus, potassium and magnesium</i>
17 05 06*	Dredging Spoil	Prescribed substances if from a potentially contaminated site, electrical conductivity if from marine site. <i>Samples should be analysed for extractable, not total phosphorus, potassium and magnesium</i>

*These wastes are mirror entries which means you will need to ensure that they are suitable for use and do not contain hazardous compounds. This may be through waste analysis.

² Waste code 10 01 01 was added in following a direction from the Scottish Government on 10 April 2012

EWC Code	Description of waste allowed to be used.	Additional Testing required
19 05 03	Off specification compost consisting only of biodegradable waste from the aerobic treatment of solid wastes	Plastic >2 mm, total physical contaminants >2 mm, stones >5 mm, sharps
19 06 03	Liquor from anaerobic treatment of municipal waste	Plastic >2 mm, total physical contaminants >2 mm, sharps BOD
19 06 04	Digestate consisting only of biodegradable waste	Plastic >2 mm, total physical contaminants >2 mm, stones >5 mm, sharps
19 06 05	Liquor from anaerobic treatment of animal and vegetable waste	BOD
19 06 06	Digestate from anaerobic treatment of animal and vegetable waste	
19 09 02	Sludges from water clarification	Under review
20 02 01	Biodegradable waste from garden and park waste	
20 02 02	Soil and Stones from garden and park waste	Prescribed substances (pesticides). <i>Samples should be analysed for extractable, not total phosphorus, potassium and magnesium</i>

*These wastes are mirror entries which means you will need to ensure that they are suitable for use and do not contain hazardous compounds. This may be through waste analysis.

Microbiology: we expect testing for *Escherichia coli* and *Salmonella spp* as a minimum.

Prescribed substances: Testing for some or all of the prescribed substances below should be carried out if your risk assessment shows that they could be present in the waste you are planning to spread to land at levels that pose a risk to human health or the environment, or if SEPA requests that you test your waste for them.

Prescribed substances as listed in Schedule 6 to the Environmental Protection (Prescribed Processes and Substances) Regulations 2011 and not already covered in the general requirement or listed in Table 4 are:

- Organic solvents.
- Azides.
- Halogens and their covalent compounds.
- Metal carbonyls.
- Organometallic compounds.
- Oxidising agents.
- Polychlorinated dibenzofuran and any congener thereof.
- Polychlorinated dibenzo-p-dioxin and any congener thereof.
- Polyhalogenated biphenyls, terphenyls and naphthalenes.
- Pesticides, that is to say, any chemical substance or preparation prepared or used for destroying any pest, including those used for protecting plants or wood or other plant products from harmful organisms; regulating the growth of plants; giving protection against harmful creatures; rendering such creatures harmless; controlling organisms with harmful or unwanted effects on water systems, buildings or other structures, or on manufactured products; or protecting animals against ectoparasites.
- Alkali metals and their oxides and alkaline earth metals and their oxides.

Appendix 2 – Soil testing methodology and analysis

How many soil samples do I require?

SEPA requires a sample for every field. Where the treatable area of a field is greater than 10 hectares we require a sample for each 10 hectare or part thereof.

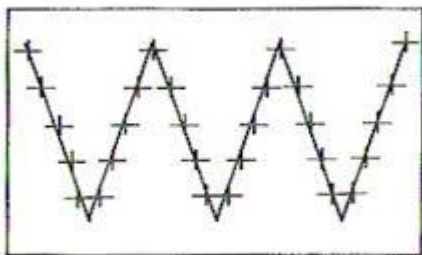
Where there are many small fields with the same soil texture and crop requirements, these may be amalgamated into ≤ 10 hectare areas.

You must NOT divide 2 or more adjacent fields into sampling 'blocks' that cut across field boundaries, even if these 'blocks' have areas < 10 hectares each. This is because fields may have differing management histories, so composite soil samples cutting across field boundaries may not be properly representative of conditions in any of the fields from which they were collected.

How can I make sure my soil analysis is representative?

The soil in a field can vary and it is important to submit analysis that reflects the conditions across the entire field. A soil sample from an individual field should be made up of at least 25 subsamples 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).

Areas of fields that are not treatable (e.g. buffer strips) should not be sampled.

Where there are many small fields with the same soil texture and crop requirements these may be amalgamated into 10 hectare areas.

Guidelines for amalgamating fields:

- They must be geographically co-located on the same farm and they should not be separated by roads or hedgerows as this will potentially have resulted in different land use in the past. 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 hectares) is required;
- The fields must be adjacent to each other and have the same soil texture and cropping history in the previous and current year;
- The boundaries of the amalgamated block of fields follows existing field boundaries. If artificial boundaries appear to have been imposed on fields during the process of field amalgamation and sampling, you will be asked to divide the fields to be sampled in a manner that is compatible with this guidance and carry out a new sampling and analysis of the soil;
- It isn't acceptable to take samples from a single field and then 'extend' the results to a neighbouring field, even if the combined area of the two fields is less than 10 hectares and they have the same cropping history and soil type, because then the sampling carried out wouldn't be representative of the full area that the results cover.

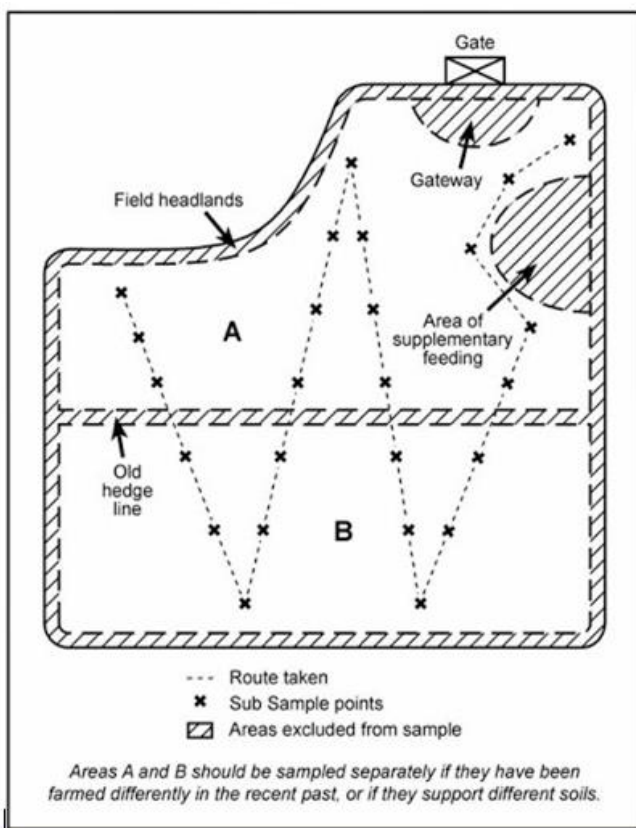


Figure: an example of sampling two fields where the total area does not exceed 10 hectares.

Soil samples should be taken at an interval of 4 or more weeks since land treatment activities of any sort last took place. For this purpose, land treatment activities include, but are not limited to, any use of waste materials, manures or slurries, compost, anaerobic digestate, lime and/or commercial fertilisers on the land.

Soil Sampling Instructions

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, a spade or trowel can be used. However, these tools don't allow equal sampling over the complete soil depth (see below).

There is no exact depth specified however, for characterisation of general soil quality, samples should be taken to a maximum depth of 20 cm. This allows you to use soil samples taken for nutrient planning. However, for PTE assessment we refer to the limits given in the Sludge (Use in Agriculture) Regulations and not to those in the Biosolids Assurance Scheme, irrespectively of the sampling depth.

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 up.

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.

After sampling the sample container/bag should be sealed and labelled properly.

Samples should either be dried at a temperature of <30°C until completely dry before being sent for analysis or stored in a cool place (cool box, fridge at 2-7°C) and transported to the analysing lab in a cool box.

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

How old can my soil analysis be?

In assessing benefit to agriculture, recent analysis is preferred as it reflects more accurately the present condition of the soils. 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; you should ensure that any other wastes/fertilisers applied since soil analysis was last undertaken have been accounted for when determining a suitable application rate for your waste(s).

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 (NVZs) 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 you can visit [the Scottish Government NVZ Map website](#). If this option is unavailable to you, contact your local SEPA office or local Scottish Executive Agricultural Office.

The waste should be analysed for Ammonium Nitrogen (NH₄-N) or Available Nitrogen and Total Organic Nitrogen. 30% or more easily available nitrogen (mainly NH₄-N) should result in further precaution because of high N availability and have time limits imposed when to be applied (especially in an NVZ).

What am I required to analyse soil for?

Whilst there is no prescribed list of analysis for soil in WMLR, this should include levels of key nutrients (e.g. phosphorus, potassium and magnesium) and other elements required to justify how the application of the waste will provide agricultural benefit. Analysis should also include pH of the receiving soil. Where the waste has associated risks, the soil should be analysed to indicate whether any accumulation in the soil will be within acceptable levels.

Table 5 details the reporting units and testing methods (where appropriate) for the receiving soil. SEPA recommends the use of laboratories accredited to carry out the necessary analysis.

Table 5 – Reporting Units and Testing Methods

Parameter	Unit (all based on dry weight)	Preferred method ¹
Part 1- Key nutrients and other factors		
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) – method used has to be specified
Total carbon (Ct), Organic carbon (C _{org}) 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)
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
Part 2- Potentially Toxic Elements ⁴:		
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)

Parameter	Unit (all based on dry weight)	Preferred method ¹
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)

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)

⁴ Soil testing for PTEs is required every 10 years

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.