

Septage management

Updated May 2020¹

EPA 247/20: This guideline applies to the transport of septage for disposal to a facility licensed to receive septage, or for application of septage to land for beneficial reuse. It updates an earlier document Septic tank sludge management.

Introduction

Septage must either be taken to a facility licensed to receive septage or where this is not reasonable or practicable, applied to land only if for beneficial reuse (for example, in regional locations or small townships). The application of septage to land in accordance with this guideline constitutes beneficial reuse. The disposal of septage to land not in accordance with this guideline and without an EPA licence may constitute a breach of the *Environment Protection Act 1993* (EP Act) and associated environment protection policies.

This guideline clarifies regulatory requirements, and contains references to the responsibilities of:

- 1 A waste transporter, licensed under the EP Act, who transports septage for disposal to a facility licensed to receive septage, or by application of septage to land for beneficial reuse; and
- 2 A land-owner, who receives septage for application to their own land for beneficial reuse, as a prescribed approved activity under Schedule 1 of the EP Act.

Some requirements are responsibilities of both the licensed waste transporter and the land-owner, and the guideline also explains the conditions to be implemented on an EPA licence.

A note on terminology:

- The term **should** is used where a particular course of action is considered by the EPA as best practice.
- The term **must** is used where a failure to comply with the action stated in the guideline will, in the EPA's view, expose the environment to a risk of harm or may lead to a breach of the EP Act or relevant environment protection policies.

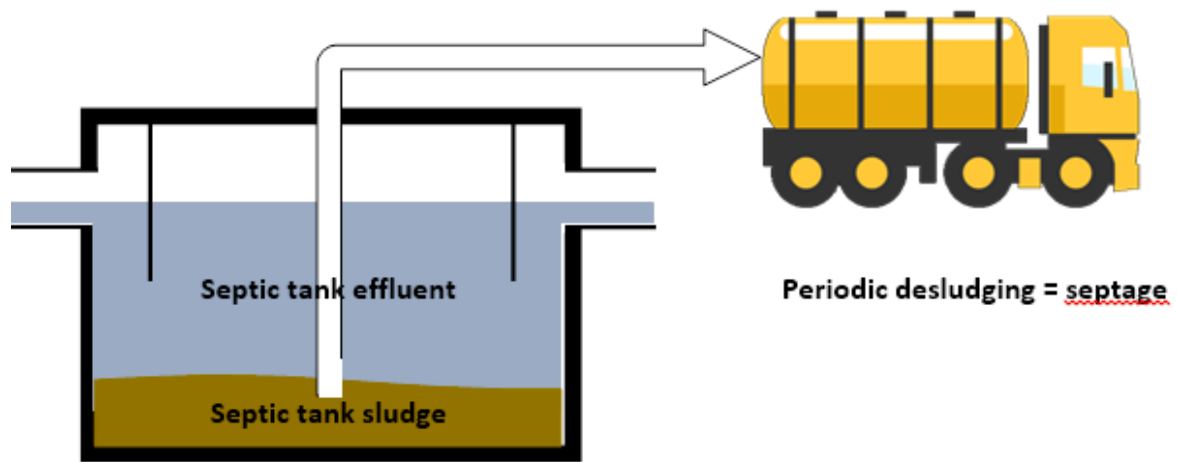
Definitions

For the purposes of this guideline:

Agricultural land includes land used for pasture and cereal crops except when precluded by the *Livestock Act 1997* or by EPA licence conditions.

¹ Last updated October 2016

Beneficial reuse	the application of septage to land, for disposal, in a manner that can be managed safely to fertilise soil by improving its nutrient, soil conditioning, energy or other value in an environmentally sustainable manner.
Septage	the product of periodic desludging of a septic tank. It is primarily septic tank sludge, but may include septic tank effluent which may inadvertently be mixed in when desludging a septic tank.
Septic tank effluent	the liquid component of a septic tank; it is not effluent from a community wastewater management system (CWMS).
Septic tank sludge	the organic matter (semi-solid or solid with a high water content) component of a septic tank which builds up over time at the bottom of the tank and must be periodically removed.
Sludge	a semi-solid (solid with a high water content) substance that may be of industrial or commercial origin, for example, grease trap waste.



Definitions of septic tank sludge, septic tank effluent and septage

EPA licence requirements

Under section 36 of the EP Act, a person **must not** undertake a prescribed activity of environmental significance without holding an environmental authorisation to do so. The penalty for this offence is \$120,000 if the offender is a body corporate, and a Division 1 fine if the offender is a natural person.

Regardless of EPA licence requirements, all persons **must** comply with the general environmental duty under section 25 of the EP Act to take all reasonable and practicable measures to prevent or minimise any environmental harm.

Licensed waste transporters

Persons carrying out work involving desludging of septic tanks and transporting that waste for fee or reward are required to hold an EPA licence to do so, according to Schedule 1, clause 3(6) of the EP Act. Enquiries concerning waste transport licences should be directed to the EPA Senior Licensing Officer (refer to 'Further Information' at the end of this guideline).

Land-owners

Schedule 1 of the EP Act states that the disposal of human wastewater or sewage to land in a manner approved by the Authority is a 'prescribed approved activity' that does not require a licence. This guideline references the responsibilities of a land-owner and defines the 'manner approved by the Authority'. Persons receiving septage for application to land do not require an EPA licence if the septage is applied to land in accordance with this guideline.

Persons receiving septage for application to land not in the manner approved (ie not in accordance with this guideline), will be deemed to not be undertaking a prescribed approved activity, and therefore will require an EPA licence for waste disposal under Schedule 1, clause 3(3) of the EP Act.

Regardless of EPA licence requirements, licensed waste transporters and land-owners should confirm whether any council or other approvals are required.

Facilities receiving septage

Persons receiving septage for disposal (any amount) not in the manner approved by the Authority (ie not in accordance with this guideline) are required to hold an EPA licence for waste disposal, according to Schedule 1, clause 3(3) of the EP Act.

Management of septage

Licensed waste transporters

- **must** either take septage to a facility licensed to receive septage, or where this is not reasonable or practicable (for example, in regional locations or small townships), apply septage to land only if for beneficial reuse.
- **must** keep sludge taken from commercial or industrial sources separate from septage and take it to a facility licensed by the EPA to receive that type of waste.

Desludging and safe handling of septage

Septage should be handled with due care and in a manner that ensures the health and safety of the community and protection of the environment.

It is not uncommon to find foreign material in septic tanks (toothbrushes, toys, rags, baby wipes, etc). This material should be removed from the septic tank during the cleanout process, using an appropriate tool. Where possible, the foreign material should be handled in the following sequence:

- 1 Hosed down in the tank as it is being removed (in order to remove as much septage and septic tank effluent from the material.
- 2 Bagged (or if required double bagged) and sealed.
- 3 Disposed of into a general waste bin or to landfill.

If septage is to be applied to land for beneficial reuse, pump out should occur at a time of year that best suits the agricultural purpose of applying septage to land (eg outside of the winter months), particularly if seasonal storage is not available. The pump-out should also occur at a frequency at which the application site is capable to receive. Proactive planning is necessary to ensure that pump-out volumes are manageable and that there is sufficient appropriate land to apply the septage.

Septage may be applied to land used for agriculture, but should not be applied to land used for grazing cattle or pigs (refer to section 32 of the *Livestock Act 1997*) due to the risk of infection. Once septage has been incorporated into the soil and pastures have been re-established, advice should be sought from the relevant authority as to the suitability for grazing of stock, including cattle and pigs.

Transport of septage

Under clause 10 of the *Environment Protection (Water Quality) Policy 2015*, licensed waste transporters must ensure that vehicles used to transport septage are cleaned (preferably at a facility licensed to receive septage) such that septage and wash-down water do not enter the stormwater system or any other waters, or land where it is likely to enter waters. Vehicles should not be cleaned where there is a risk that the wash-down water will remain ponded. Any spills during transport should be cleaned up rapidly and dry clean-up methods are always preferable.

Application of septage to land

Licensed waste transporters:

- **must** have obtained consent from the Land-owner prior to applying septage to land
- **must not** apply septage to land if the septage contains sludge from commercial or industrial sources
- **must not** apply septage to land where it may enter waters including stormwater and groundwater (including by processes such as runoff, seepage, or rising of the water table)
- **must not** apply septage to land in a way that results in pooling, water logging or runoff
- **must not** apply septage to land used for horticulture for food production or applied to home gardens due to associated health risks.

Land-owners

- **must** have given consent to the licensed waste transporter prior to the application of septage to land
- **must** ensure that septage is **not** applied to land where it may enter waters including stormwater and groundwater (including by processes such as runoff, seepage, or rising of the water table)
- **must** ensure that septage is **not** applied to land in a way that results in pooling, water logging or runoff
- **must** ensure that septage is **not** applied to land used for horticulture for food production or applied to home gardens due to associated health risks.

Land selection criteria

This section is applicable to both licensed waste transporters and land-owners.

Septage **should** only be applied to land with suitable soil properties and of sufficient area to allow for sustainable land use.

Septage **should not** be applied to land within:

- the 1956 flood level of the River Murray
 - 100 m of any river, creek or other natural watercourse (whether modified or not), or a channel (which can include a drain, gutter or exposed pipe) identified:
 - as a blue line on a current series 1:50,000 Department for Environment and Water topographic map
 - or
 - by an on-site inspection;
 - 100 m of any bore, well, dam, or lake
 - 100 m of the mean high water mark along coastal foreshore areas
 - 400 m of any dwelling on neighbouring properties, or a town boundary
 - 5 m of a farm drive
- or
- 50 m of any property boundaries or public roads.

Septage **should not** be applied to land or soil with any of the following properties:

- where shallow groundwater exists (ie where the depth to a permanent watertable is less than 1.2 m from the natural surface)
- slope greater than 1 in 5 (20%)
- rocky and soil depth less than 1.2 m
- seasonally waterlogged or classified as being poorly or very poorly drained
- subject to flooding (the site should not be subject to flooding more frequently than one in 10 years)
- known or potential problems with salinity that may be exacerbated by any application of septage
- risk of nutrients being leached from the root zone into groundwater
- bare or no groundcover
- no plants or pasture to utilise the nutrient loading.

Septage application

This section is applicable to both licensed waste transporters and land-owners.

Application of septage to land should be undertaken with consideration to the following:

- Septage **should** only be applied to land in a manner that will allow for sustainable productive land use.
- As septage is applied to land:
 - it **should** be screened so that intractable wastes or foreign objects (eg plastics, rags, etc) are removed to prevent contamination of the land
 - the waste transport vehicle **should** be continuously moving (to allow for even distribution)
 - the vehicle outlet **should** be designed to reduce spray and aerosols, and spread the septage evenly and thinly over the land (a flared application is preferred)
- and
 - the area where septage has been applied **should** be physically inspected and any foreign objects and litter **should** be removed and disposed appropriately.
- Septage **should not** be applied continuously to one area, or where septage has previously been applied in the same year. Each area should be rested for a period each year (eg during the winter months). Continued application to the same area for more than three consecutive years **should not** occur.
- Due to the high concentration of nitrogen in septage, land to which septage is applied **should** be monitored for soil health, nutrient levels, and other potential environmental impacts.
- Following application, septage **should** be incorporated into the soil as soon as reasonable and practicable to prevent odour leaving the site. Septage should be applied at a rate to allow rapid drying to reduce the risk of odour and vector attraction (eg birds, flies, mosquitos and rodents).
- Crops **should** be established soon after application to minimise leaching of nutrients to groundwater.

Application rate

Licensed waste transporters

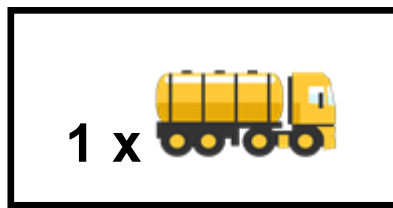
A licensed waste transporter **must not** apply septage to land at a rate greater than 128 kL per hectare for each application.

Land-owners

A land-owner **must** ensure that septage is not applied to land at a rate greater than 128 kL per hectare for each application.

To prevent downward movement of water through the soil profile, the maximum application rate for septage is 100 kg of nitrogen per hectare per year. This maximum application rate is determined by the nitrogen-loading rate. Septage from a septic tank contains an average of 700 mg/L total Kjeldahl nitrogen (TKN; a measure of the concentration of organic nitrogen plus nitrogen as ammonia). To achieve the recommended rate, apply the septage from one 8 kL tanker evenly and thinly over a minimum of 600 m².

As an example, each year a 1-ha plot of land can receive septage from 16 x 8-kL tankers. Where a site is used for septage application, each disposal event should be pegged or marked in some way so that the area is identifiable to avoid repeat applications.



Area = Minimum 600 m²

One 8-kL tanker of septage

Contains on average 700 mg TKN / L

Minimum application area = 600 m²

16 x  = 1 ha



1 hectare

Maximum of 16 x 8-kL tankers of septage

Exclusion of the public and separation distances

Licensed waste transporters:

- **must not** apply septage to land in such a way that causes environmental nuisance in the form of off-site odour impacts
- **must not** apply septage to land within 400 m of any dwelling on neighbouring properties.

Land-owners:

- **must** ensure that land to which septage is applied is adequately fenced to prevent access by the public
- **must** ensure that septage is not applied to land in such a way that causes environmental nuisance in the form of off-site odour impacts
- **must** ensure that septage is not applied to land within 400 m of any dwelling on neighbouring properties.

Appropriateness of weather conditions (such as prevailing wind directions and predicted rainfall events) should be considered prior to applying septage to land so as to prevent the transmission of odour to any residence.

Record keeping

Licensed waste transporters **must** keep records (for not less than 12 months) relating to the transport and application of septage under their licence conditions, including:

- the address of the premises to which septage is applied
- consent from the land-owner for septage application at the premises
- the date that septage is applied to land at the premises
- the volume of septage that is applied to land at the premises.

Land-owners **must** also keep records including:

- the address of the premises to which septage is applied
- the EPA licence number of the licensed waste transporter that transported the septage
- the date that septage is applied to land at the premises
- the volume of septage that is applied to land at the premises.

You may need to check with the EPA if a [waste transport certificate](#) (WTC) is needed to be completed for the transport of the septage.

Currency of this guideline

This guideline offers advice to assist with compliance with EPA licence requirements, the general environmental duty and specific environmental policies. They are subject to amendment and persons relying on the information should check with the EPA to ensure that it is current at any given time.

Legislation

Legislation relevant to this guideline includes:

- *Environment Protection Act 1993*
- *Environment Protection (Water Quality) Policy 2015*

- *Livestock Act 1997* (also contact [Primary Industries and Regions South Australia – PIRSA](#))

Further reading

[South Australian On-site Wastewater Systems Code 2013](#), SA Health

Disclaimer

This publication is a guide only and does not necessarily provide adequate information in relation to every situation. This publication seeks to explain your possible obligations in a helpful and accessible way. In doing so, however, some detail may not be captured. It is important, therefore, that you seek information from the EPA itself regarding your possible obligations and, where appropriate, that you seek your own legal advice.

Further information

Legislation

[Online legislation](#) is freely available. Copies of legislation are available for purchase from:

Service SA Government Legislation Outlet
Adelaide Service SA Centre
108 North Terrace
Adelaide SA 5000

Telephone: 13 23 24
Facsimile: (08) 8204 1909
Website: <https://service.sa.gov.au/12-legislation>
Email: ServiceSAcustomerservice@sa.gov.au

General information

Environment Protection Authority
GPO Box 2607
Adelaide SA 5001

Telephone: (08) 8204 2004
Facsimile: (08) 8124 4670
Freecall: 1800 623 445 (country)
Website: <https://www.epa.sa.gov.au>
Email: epainfo@sa.gov.au

For licensing information please contact:

Telephone: (08) 8204 2058
Email: EPALicensing@sa.gov.au
