



NSAI
Standards

Standard Recommendation
S.R. CEN/TS 13714:2013

Characterization of sludges - Sludge management in relation to use or disposal

S.R. CEN/TS 13714:2013

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWIFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces:
CEN/TR 13714:2010

<i>This document is based on:</i>	<i>Published:</i>
CEN/TS 13714:2013	1 August, 2013
CEN/TR 13714:2010	2 June, 2010

This document was published
under the authority of the NSAI
and comes into effect on:
1 August, 2013

ICS number:

77.060
93.140

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie

W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

English Version

Characterization of sludges - Sludge management in relation to use or disposal

Caractérisation des boues - Gestion des boues en vue de leur valorisation ou de leur élimination

Charakterisierung von Schlämmen - Management von Schlamm zur Verwertung oder Beseitigung

This Technical Specification (CEN/TS) was approved by CEN on 27 August 2012 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	4
Introduction	5
1 Scope.....	7
2 Normative references.....	7
3 Terms and definitions and abbreviated terms	7
3.1 Terms and definitions	7
3.2 Abbreviated terms.....	7
4 Waste hierarchy	8
4.1 General	8
4.2 Context	9
5 Management of sludge quality - Upstream processes	9
5.1 General	9
5.2 Municipal wastewater sludges	9
5.3 Setting limits for discharges from industrial and commercial premises to municipal sewers	10
5.4 Other factors	10
5.4.1 General	10
5.4.2 Protection of biological municipal wastewater treatment processes	11
5.4.3 Protection of biological sludge treatment processes.....	11
5.4.4 Protection of environmental quality in the receiving watercourse	11
5.4.5 Protection of sewer fabric.....	11
5.4.6 Protection of sewer maintenance workers.....	11
5.5 Minimising contamination including diffuse sources in municipal wastewater	11
6 Sludge management	12
6.1 Measures upstream of water and wastewater treatment facilities	12
6.1.1 Source prevention.....	12
6.1.2 Source reduction.....	12
6.2 Measures at sites of sludge production and processing	12
6.2.1 Water and Wastewater treatment processes	12
6.2.2 Sludge treatment.....	12
6.3 Solutions for recycling recovery and disposal	14
6.3.1 General	14
6.3.2 Application to land (see CEN/TR 13097 [16] and CEN/TR 13983 [17])	14
6.3.3 Other uses	14
6.3.4 Energy recovery	14
6.3.5 Component recovery	15
6.4 Disposal.....	15
7 Operational good practices	16
7.1 General	16
7.2 Upstream of the sludge production site.....	16
7.2.1 General	16
7.2.2 Communication process between all participants upstream of the sludge production	16
7.2.3 Sewerage system structure improvement and maintenance	16
7.3 At the sludge production site	17
7.3.1 General	17
7.3.2 General guidelines for operations.....	17
7.3.3 Storage	17
7.3.4 Site access	18
8 Strategic evaluation of options and links with the other good practice documents.....	18

8.1	General	18
8.2	Sludge quantity assessment.....	18
8.3	Sludge quality.....	18
8.4	Developing a strategy for sludge use/disposal.....	19
Annex A	(informative) Best Practicable Environmental Option for sludges use or disposal	20
Annex B	(informative) Environmental checklist.....	21
Bibliography	23

Foreword

This document (CEN/TS 13714:2013) has been prepared by Technical Committee CEN/TC 308 “Characterization of sludges”, the secretariat of which is held by AFNOR.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes CEN/TR 13714:2010.

This document gives recommendations for good practice, but existing national regulations remain in force.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

The purpose of this Technical Specification is to outline the management of sludges both upstream and downstream of the treatment process to ensure that it is suitable for the outlets available. Sludge is the inevitable residue of treating raw potable water and municipal and industrial wastewaters. This Technical Specification refers to all types of sludge covered by CEN/TC 308 including sludges from treating industrial wastewater similar to urban wastewater and from water supply treatment work plants. In considering the likely quality of sludges, it should be remembered that municipal wastewater sludges are composed of materials that have already been disposed of and are consequently likely to be more variable than many industrial sludges that arise from sourced materials or water treatment sludges arising from surface water or groundwater.

The quality of the sludge should match the requirements of the outlets whether that be to land, thermal processing or as a last resort landfill. As a general rule a high quality sludge is likely to be acceptable to a large range of outlets giving greater operational flexibility. High quality sludges are likely to be suitable for those outlets associated with maximum sustainability and minimum environmental pollution. The management of sludges will become increasingly more complex as environmental standards become more stringent and if outlets become more constrained by legislation and public attitudes.

Sludge quality is central to the development of good practice for sludge production in relation to its destination (use or disposal). Sludge quality depends on the composition of the upstream materials and the type of treatment including post treatment storage.

Sludge quality can be characterised by its different properties; biological, chemical and physical:

- a) biological properties include the microbiological stability of the organic matter in the sludge, odour and hygienic characteristics;
- b) chemical properties include:
 - 1) content of potentially toxic substances (PTSs) which include inorganic (metals, metalloids, and other minerals), and organic pollutants;
 - 2) concentrations and form (availability) of plant nutrients and the main components of the sludge;
- c) physical properties include whether liquid, semi-solid (pasty-like) or solid, and aesthetic factors associated for instance with removal of unsightly debris by effective screening. Calorific value is a quality criterion if the sludge is to be incinerated or used as a fuel. Other physical properties include, thickenability and dewaterability.

The consistency of these different properties is a critical aspect of the sludge quality and of the ability to determine its end destination (use or disposal).

Standard methods should be used where these are available to measure the quality parameters of sludge. There is a continuing need to develop a full set of standardised and harmonised methods which the manager and operator can use to evaluate the quality of sludge for treatment process design and operational purposes.

This Technical Specification considers the management of sludges against the waste hierarchy, the management of sludge quality and an option evaluation process to determine the options available.

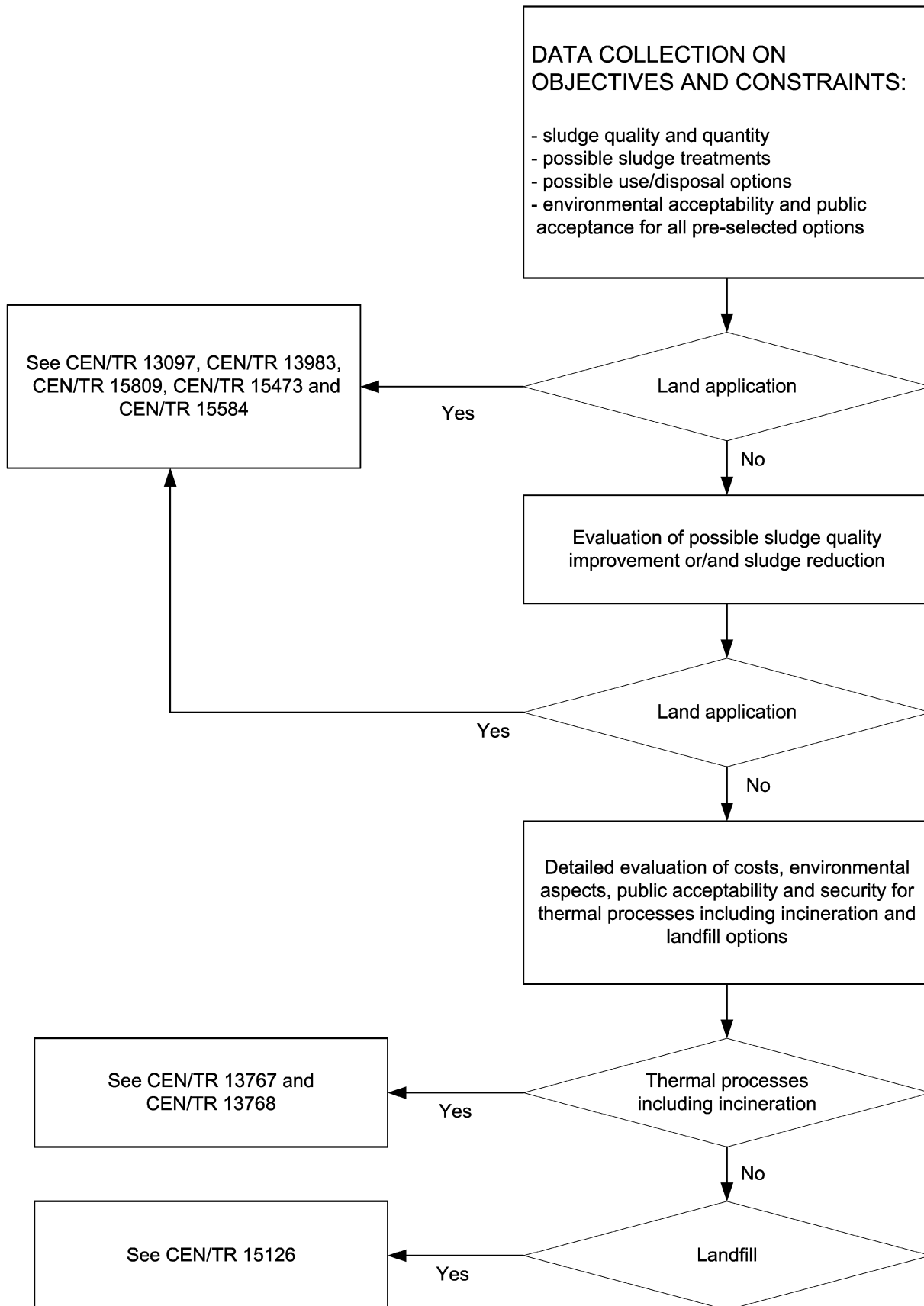


Figure 1 — A basic scheme for deciding on sewage sludge use/disposal options and the relevant CEN/TC 308 guidance documents

1 Scope

This Technical Specification gives guidance for dealing with the production and control of sludge in relation to inputs and treatment and gives a strategic evaluation of recovery, recycling and disposal options for sludge according to its properties and the availability of outlets.

This Technical Specification is applicable for sludges from:

- storm water handling;
- night soil;
- urban wastewater collecting systems;
- urban wastewater treatment plants;
- treating industrial wastewater similar to urban wastewater (as defined in Directive 91/271/EC [1]);
- water supply treatment plants;

but excluding hazardous sludges from industry.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1085:2007, *Wastewater treatment — Vocabulary*

EN 12832:1999, *Characterization of sludges — Utilization and disposal of sludges — Vocabulary*

3 Terms and definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1085:2007 and EN 12832:1999 and the following apply.

3.1.1

industrial wastewater

trade wastewater

trade effluent

wastewater discharge resulting from any industrial or commercial activity

3.1.2

urban wastewater

municipal wastewater

wastewater from municipal areas consisting predominantly of domestic wastewater and which may additionally contain surface water, infiltration water, trade or industrial wastewater

3.2 Abbreviated terms

The following abbreviated terms, necessary for the understanding of this specification, apply:

- BOD: Biochemical Oxygen Demand

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-