BRITISH STANDARD

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Packaging — Packaging and the environment — Terminology

The European Standard EN 13193:2000 has the status of a British Standard

ICS 01.040.13; 01.040.55; 55.020

National foreword

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Emballage - Emballage et environnement - Terminologie

Verpackung - Verpackung und Umwelt - Terminologie

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 261 "Packaging", the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2000, and conflicting national standards shall be withdrawn at the latest by November 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

The European Council and Parliament Directive on Packaging and Packaging Waste (94/62/EC) sets targets and measures to be taken by Member States for the management of packaging and packaging waste and includes a number of definitions. This standard has been prepared to elaborate these definitions and to show how their usage is linked.

To facilitate the understanding of some of the terms, relevant definitions from the Packaging and Packaging Waste Directive and the Waste Directive are included in an informative annex.

Introduction

In order to implement the Directive, all those involved in the packaging chain including economic operators, public and local authorities and consumers will be dealing with many terms related to packaging and in particular to used packaging.

Some of the definitions in the Directive are self-supporting but some make reference to other Directives. In addition, other terms in common use are not defined in the Directive. This standard aims to provide a comprehensive glossary which uses the applicable Directive's definitions, providing when appropriate additional notes to make these definitions understandable without reference to other documents.

The standard also contains a scheme showing the linkages between the main terms defined in this standard.

1 Scope

This standard defines terms used in the field of Packaging and the Environment.

2 Terminology

The following principles are used as a basis :

— no preference is implied between the different methods of recovery ;

— no preference is implied between different packaging materials.

The terms are divided between three clauses. Clause 3 contains terms which are specifically related to packaging and the environment. Clause 4 contains terms relating to degradability and clause 5 terms relating to energy recovery. The terms in clauses 4 and 5 are often used in connection with packaging.

A scheme showing how a number of the following terms are linked is given in annex A. This scheme has been included to assist in understanding how the definitions have been derived, particularly in relation to the Packaging and Packaging Waste Directive. It is not intended as a flow diagram and should not be interpreted as such.

3 Terms specific to packaging and the environment

3.1 General terms

3.1.1
packaging component
part of packaging that can be separated by hand or by using simple physical means

3.1.2
packaging constituent
part from which packaging or its components are made and which cannot be separated by hand or by using simple physical means

3.2 Terms related to recovery and reuse of packaging

3.2.1
recovery
see annex B (B.1.2 and B.2.4)

3.2.2
recoverable packaging
packaging which is capable of undergoing a process of recovery

3.2.3
recycling
reprocessing in a production process of the waste materials for the original purpose or for other purposes including organic recycling but excluding energy recovery [Directive 94/62/EC]

3.2.4
recyclable packaging
packaging which is capable of undergoing a process of recycling

3.2.5
material recycling
recycling by means other than organic recycling

3.2.6
organic recycling
see annex B (B.1.3)

3.2.7
energy recovery
see annex B (B.1.4)

3.2.8
returnable packaging
packaging for which there is a specific packaging collection system not necessarily for reuse

3.2.9
reuse
any operation by which packaging, which has been conceived and designed to accomplish within its life cycle a minimum number of trips or rotations, is refilled or used for the same purpose for which it was conceived, with or without the support of auxiliary products present on the market enabling the packaging to be refilled ; such re-used packaging will become packaging waste when no longer subject to reuse [Directive 94/62/EC]

3.2.10
reusable packaging
packaging or packaging component which has been conceived and designed to accomplish within its life cycle a minimum number of trips or rotations in a system for reuse

3.2.11
one-way packaging
packaging which is designed to be used only once

3.3 Terms relating to end of life packaging

3.3.1
disposal
see annex B (B.1.5 and B.2.3)

3.3.2
packaging waste
see annex B (B.1.1, B.2.1 and B.2.2)

3.3.3
used packaging
packaging or packaging component remaining after the removal of the product it contained, protected or carried

3.3.4
used packaging with hazardous residues
used packaging with residues of hazardous substances or products

NOTE Hazardous substances are defined by international, European Union and national regulations.

3.3.5
packaging litter
used packaging or packaging component which has been discarded in an uncontrolled manner in the environment

4 Terms related to packaging and degradability

NOTE For the definitions which follow in 4.1, analogous derivatives apply. For instance, biodegradability is the potential of a material to be biodegraded and biodegradable is the characteristic of a material which allows it to undergo biodegradation to a specific extent within a given time measured by specific standard test methods.

4.1
degradation
an irreversible process leading to a significant change of the structure of a material, typically characterized by a loss of properties (e.g. integrity, mechanical strength, change of molecular weight or structure) and/or fragmentation

Degradation is affected by environmental conditions and proceeds over a period of time comprising one or more steps.

4.2
biodegradation
degradation caused by biological activity, especially by enzymatic action leading to a significant change of the chemical structure of a material

4.3
chemical degradation
degradation caused by chemical agents including catalysts leading to a significant change of the chemical structure of a material

4.4
photodegradation
degradation caused by absorption of visible and UV light

4.5
mechanical degradation
disintegration caused by mechanical influences i.e. forces such as vibration and shock, shear stress, abrasion, pressure, rupture leading to a significant change of the physical structure of a material

4.6
thermal degradation
degradation caused by heat leading to a significant change of the physical and/or chemical structure of a material

4.7
compost
organic soil conditioner obtained by biodegradation of a mixture principally consisting of various vegetable residues, occasionally with other organic material and having a limited mineral content

NOTE 1 Criteria for the quality of compost is defined by international, European and national standards and includes content of "heavy metals", ecotoxicity and level of distinguishable residue.

NOTE 2 The following term is a derivative of the above definition : Compostability : potential of a material to be biodegraded in a composting process.

5 Terms relating to packaging and energy recovery

5.1 Terms relating to combustion

5.1.1
combustion
process of burning. Chemical conversion by means of an oxidant, usually oxygen, accompanied by the release of heat.

5.1.2
combustible material
any material capable of releasing energy by burning

5.1.3
co-combustion
combustion of a mixture of fuels

5.1.4
mono-combustion
combustion of a single fuel

5.1.5
gasification
transformation of organic material by partial oxidation into a gaseous fuel or a synthetic gas

5.1.6
incineration
combustion of waste with or without energy recovery

5.1.7
waste-to-energy process
combustion of waste, with the primary goal of energy recovery

5.2 Terms relating to fuel

5.2.1
fuel
any material used as a source of energy

5.2.2
primary fuel
principal fuel(s) of an energy conversion plant

5.2.3
secondary fuel
fuel used in addition to the primary fuel

5.2.4
support fuel
fuel used to maintain combustion

5.2.5
refuse derived fuel (RDF)
waste pre-treated to make it more suitable as a fuel

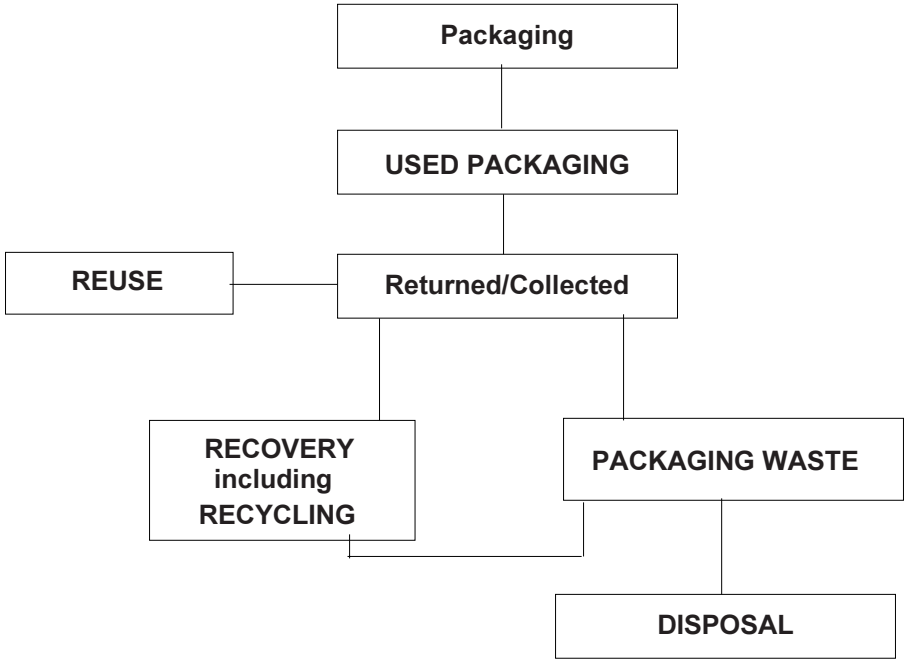
5.2.6
packaging derived fuel (PDF)
fuel derived by separate collection of combustibles, mainly consisting of used packaging

5.2.7
pre-treated waste
waste that has been treated to make it more suitable for recovery or disposal

Annex A
(normative)

Scheme showing the linkage between selected general terms

NOTE This scheme is not intended as a flow diagram and should not be interpreted as such.



Annex B
(informative)

Definitions from directives and clarifications

B.1 Directive 94/62/EC on packaging and packaging waste

B.1.1
packaging waste
“any packaging or packaging material covered by the definition of waste in Directive 75/442/EEC, excluding production residues". [Directive 94/62/EC]

NOTE Packaging or packaging materials which fall out of the commercial cycle or out of the chain of utility. Such items of material may be subject to recovery processes or may be sent for final disposal.

B.1.2
recovery
"any of the applicable operations provided for in annex II B to Directive 75/442/EEC".[Directive 94/62/EC]

NOTE An operation which intentionally diverts waste from final disposal. The principal operations for used packaging are recycling (including composting) and energy recovery.

B.1.3
organic recycling
aerobic (composting) or anaerobic (biomethanization) treatment, under controlled conditions and using microorganisms, of the biodegradable parts of packaging waste, which produces stabilized organic residues or methane. Landfill shall not be considered a form of organic recycling. [Directive 94/62/EC]

NOTE The terms "organic recycling" and "organic recovery" are to be regarded as synonymous.

B.1.4
energy recovery
"use of combustible packaging waste as a means to generate energy through direct incineration with or without other waste but with recovery of the heat." [Directive 94/62/EC]

NOTE From a technical point of view, any process where the calorific value or the sensible heat of a material is converted into useful heat or electricity.

B.1.5
Disposal
"any of the applicable operations provided for in annex II A to Directive 75/442/EEC".[Directive 94/62/EC]

NOTE Within the context of the life cycle of packaging and packaging waste, disposal can be considered as the ultimate operation on packaging waste which is not recovered.

B.2 Directive 75/442/EEC on waste as amended by 91/156/EEC and 96/350/EC

B.2.1 Waste

"Any substance or object in the categories set out in annex I which the holder discards or intends or is required to discard.

“The Commission, acting in accordance with the procedure laid down in article 18, will draw up, not later than 1 April 1993, a list of wastes belonging to the categories listed in annex I. This list will be periodically reviewed and, if necessary, revised by the same procedure."[Directive 75/442//EEC]

B.2.2 Annex I : Categories of waste

Q1 Production or consumption residues not otherwise specified below

Q2 Off-specification products

Q3 Products whose date for appropriate use has expired

Q4 Materials spilled, lost or having undergone other mishap, including any materials, equipment, etc. contaminated as a result of the mishap

Q5 Material contaminated or soiled as a result of planned actions (e.g. residues from cleaning operations, packing materials, containers, etc.)

Q6 Unusable parts (e.g. reject batteries, exhausted catalysts, etc.)

Q7 Substances which no longer perform satisfactorily (e.g. contaminated acids, contaminated solvents, exhausted tempering salts, etc.)

Q8 Residues of industrial processes (e.g. slags, still bottoms, etc.)

Q9 Residues from pollution abatement processes (e.g. scrubber sludges, baghouse dusts, spent filters, etc.)

Q10 Machining/finishing residues (e.g. lathe turnings, mill scales, etc.)

Q11 Residues from raw materials extraction and processing (e.g. mining residues, oil field slops, etc.)

Q12 Adulterated materials (e.g. oil contaminated with PCBs, etc.)

Q13 Any materials, substances or products whose use has been banned by law

Q14 Products for which the holder has no further use (e.g. agricultural, household, office, commercial and shop discards, etc.)

Q15 Contaminated materials, substances or products resulting from remedial action with respect to land

Q16 Any materials, substances or products which are not contained in the above categories

B.2.3 Annex II A : Disposal operations

NOTE This annex is intended to list disposal operations such as they occur in practice. In accordance with Article 4, waste shall be disposed of without endangering human health and without the use of processes or methods likely to harm the environment.

D1 Deposit into or onto land (e.g. landfill, etc.)

D2 Land treatment (e.g. biodegradation of liquid or sludgy discards in soils, etc.)

D3 Deep injection (e.g. injection of pumpable discards into wells, salt domes or naturally occurring repositories, etc.)

D4 Surface impoundment (e.g. placement of liquid or sludgy discards into pits, ponds or lagoons, etc.)

D5 Specially engineered landfill (e.g. placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)

D6 Release into a water body except seas/oceans

D7 Release into seas/oceans including sea-bed insertion

D8 Biological treatment not specified elsewhere in this annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D12

D9 Physico-chemical treatment not specified elsewhere in this annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D12 (e.g. evaporation, drying, calcination, etc.)

D10 Incineration on land

D11 Incineration at sea

D12 Permanent storage (e.g. emplacement of containers in a mine, etc.)

D13 Blending or mixing prior to submission to any of the operations numbered D1 to D12

D14 Repackaging prior to submission to any of the operations numbered D1 to D13

D15 Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced).

B.2.4 Annex II B : Recovery operations

NOTE This annex is intended to list recovery operations as they occur in practice. In accordance with Article 4, waste shall be recovered without endangering human health and without the use of processes or methods likely to harm the environment.

R1 Use principally as a fuel or other means to generate energy

R2 Solvent reclamation/regeneration

R3 Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)

R4 Recycling/reclamation of metals and metal compounds

R5 Recycling/reclamation of other inorganic materials

R6 Regeneration of acids or bases

R7 Recovery of components used for pollution abatement

R8 Recovery of components from catalysts

R9 Oil re-refining or other reuses of oil

R10 Land treatment resulting in benefit to agriculture or ecological improvement

R11 Use of wastes obtained from any of the operations numbered R1 to R10

R12 Exchange of wastes for submission to any of the operations numbered R1 to R11

R13 Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)

Bibliography

[1] European Parliament and Council Directive 94/62/EC of 20 December 1994 on Packaging and Packaging Waste.

[2] Council of European Communities Directive 75/442/EEC of 15 July 1975 on waste as amended by 91/156/EEC, 96/350/EC and Commission Decision of 24 May 1996.

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