Irish Standard
I.S. 432:2010

Packaged groundwater

I.S. 432:2010

Incorporating amendments/corrigenda/National Annexes issued since publication:
I.S. 432:2010/AC:2011

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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.

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I.S. 432:2010 – Packaged groundwater

Corrigendum 1

In Table B.2 (page 41) change table number:

〚AC1〛 Table 1 〚AC1〛— *(continued)*

In Table B.3 (page 41) change table number and the rows indicated below:

〚AC1〛 Table 2 〚AC1〛— Natural Mineral Water - Microbiological parameters

Parameter	Limit at Source	Limit in Package	Frequency of Analysis
Escherichia coli @ 44,5 °C	0 in 250 ml〚AC1〛 ** 〚AC1〛	0 in 250 ml**	Daily
Sporulated sulphite reducing anaerobes	0 in 50 ml〚AC1〛 ** 〚AC1〛	0 in 50 ml**	Monthly
Enterococci	0 in 250 ml〚AC1〛 ** 〚AC1〛	0 in 250 ml〚AC1〛 ** 〚AC1〛	Monthly
Pseudomonas aeruginosa	0 in 250 ml〚AC1〛 ** 〚AC1〛	0 in 250 ml**	Monthly
Pathogens	Absent〚AC1〛 ** 〚AC1〛	〚AC1〛 Absent** 〚AC1〛	
Salmonella	0 in 5,0 L		Yearly
Parasites	Absent〚AC1〛 ** 〚AC1〛	〚AC1〛 Absent** 〚AC1〛	
Cryptosporidium	0 in 400 L		Yearly
Giardia	0 in 400 L		Yearly
Helminths	0 in 400 L		Yearly

In Table B.4 (page 42) change table number:

〚AC1〛 Table 3 〚AC1〛— Natural Mineral Water - Physical parameters

In Table B.5 (page 42) change table number:

〚AC1〛 Table 4 〚AC1〛— Natural Mineral Water - Radioactivity Values

In Table B.6 (page 43) change table number:

〚AC1〛 Table 5 〚AC1〛— Spring Water - Chemical Parameters

In Table B.7 (page 44) change table number:

〚AC1〛 Table 5 〚AC1〛— *(continued)*

In Table B.8 (page 44) change table number and the rows indicated below:

[AC1] Table 6 〈AC1〉— Spring Water - Microbiological Parameters

Parameter	Limit at Source	Limit in Package	Indicator Value	Frequency of Analysis
Coliforms @ 37°C	0 in 250 ml[AC1] ** 〈AC1〉	0 in 250 ml**	0 in 250 ml	Daily
Escherichia coli @ 44,5 °C	0 in 250 ml[AC1] ** 〈AC1〉	0 in 250 ml**	0 in 250 ml	Daily
Sporulated sulphite reducing anaerobes	0 in 50 ml[AC1] ** 〈AC1〉	0 in 50 ml**	0 in 100 ml	Monthly
Pseudomonas aeruginosa	0 in 250 ml[AC1] ** 〈AC1〉	0 in 250 ml**		Monthly
Enterococci	0 in 250 ml[AC1] ** 〈AC1〉	0 in 250 ml[AC1] ** 〈AC1〉		Monthly
[AC1] Pathogens 〈AC1〉	[AC1] Absent** 〈AC1〉	[AC1] Absent** 〈AC1〉		Yearly
Salmonella	0 in 5 L			
Parasites	[AC1] Absent** 〈AC1〉	[AC1] Absent** 〈AC1〉	-	
Cryptosporidium	0 in 400 L			Yearly
Giardia	0 in 400 L			Yearly
Helminths	0 in 400 L			Yearly

In Table B.9 (page 45) change table number:

[AC1] Table 7 〈AC1〉— Spring Water - Physical parameters

In Table B.10 (page 45) change table number:

[AC1] Table 8 〈AC1〉— Spring Water - Radioactivity values

In Table B.11 (page 46) change table number:

[AC1] Table 9 〈AC1〉— Other Water - Chemical Parameters

In Table B.12 (page 47) change table number and the rows indicated below:

[AC1] Table 10 〈AC1〉— Other Water - Microbiological parameters

Parameter	Limit in Package	Indicator Value	Frequency of Analysis
Coliforms @ 37°C	[AC1] 〈AC1〉	0 in 250 ml	Daily
Enterococci	0 in 250 ml[AC1] ** 〈AC1〉		

In Table B.13 (page 48) change table number:

[AC1] Table 11 〈AC1〉— Other Water - Physical parameters

In Table B.14 (page 48) change table number:

[AC1] Table 12 ⟨AC1⟩— Other Water - Radioactivity Values

In Table B.15 (page 49) change table number and the rows indicated below:

[AC1] Table 13 ⟨AC1⟩— Specified microbiological methods of analysis

Parameter	Incubation time	Culture medium	Sample size	Standard method
Basal medium		[AC1] ⟨AC1⟩		
Tryptose		[AC1] 30 g ⟨AC1⟩		
Yeast extract		[AC1] 20 g ⟨AC1⟩		
Sucrose		[AC1] 5 g ⟨AC1⟩		
L-cysteine hydrochloride		[AC1] 1 g ⟨AC1⟩		
$MgSO_4$- 7 H_2O		[AC1] 0,1 g ⟨AC1⟩		
Bromocresol purple		[AC1] 40 mg ⟨AC1⟩		
Agar		[AC1] 15 g ⟨AC1⟩		

Please note that these changes have been included in the text of the standard for convenience.

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DECLARATION

OF

SPECIFICATION

ENTITLED

PACKAGED GROUNDWATER

AS

THE IRISH STANDARD SPECIFICATION FOR

PACKAGED GROUNDWATER

_____

NSAI in exercise of the power conferred by section 16 (5) of the National Standards Authority of Ireland Act, 1996 (No. 28 of 1996) and with the consent of the Minister for Enterprise, Trade and Innovation, hereby declare as follows:

1. This instrument may be cited as the Standard Specification (Packaged groundwater) Declaration, 2010.

2. (1) The Specification set forth in the Schedule to this declaration is hereby declared to be the standard specification for Packaged groundwater.

(2) The said standard specification may be cited as Irish Standard 432:2010 or as I.S. 432:2010.

3. (1) The Standard Specification (Packaged water) Declaration 2005, is hereby revoked.

(2) Reference in any other standard specification to the Instrument hereby revoked and to Irish Standard 432:2005 thereby prescribed, shall be construed, respectively, as references to this Instrument and to Irish Standard 432:2010.

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Foreword

This national standard is a voluntary standard and was prepared by a specialist working group of the Food Industry Standards Committee of NSAI.

The European Regulation on the hygiene of foodstuffs requires all food businesses to be registered, have reliable traceability systems and to implement and maintain food safety management systems based on the principles of Hazard Analysis Critical Control Point or HACCP. HACCP is a systematic science based system that identifies specific hazards and measures their control in order to ensure food safety. The basis of an effective HACCP system is the correct implementation of food hygiene requirements.

This standard addresses all of these legal requirements as they apply to a water packaging operation and is suitable for use by a packaged groundwater business as a method of complying with the food hygiene regulations.

The Food Safety Authority of Ireland (FSAI) publishes regular updates on legal requirements for food businesses and the packaged water business operator should consult to the FSAI web-site at www.fsai.ie for information.

This standard provides guidance on the development and management of suitable sources of groundwater for packaging. Groundwater is water that is located beneath the ground surface in pore spaces and fractures of geological formations.

In this standard the word "shall" indicates that compliance with the specific requirement of the standard is necessary, the word "should" is used where compliance with a specific requirement of the standard is best practice. It is recommended that the packager gives consideration to compliance with the best practice requirements in this standard.

This standard does not apply to packaged waters that are taken from a water source that is not groundwater or to flavoured waters.

There are three classes of packaged groundwater namely, natural mineral water, spring water or other groundwater. The types of permitted treatment, the quality criteria and the labelling requirements for the three classes of groundwater are specified in this standard.

Natural mineral water is derived from a natural spring extracted from the ground and packaged at source, complies with the legal requirements for natural mineral water and is recognised by the responsible authority. In Ireland, the National Standards Authority of Ireland (NSAI) has been nominated by the Food Safety Authority of Ireland (FSAI) as the responsible authority.

Spring water is intended for human consumption in its natural state, complies with the legal requirements for spring water and is packaged at source. Other groundwater is water intended for human consumption and is not a natural mineral water or spring water.

The treatments permitted for natural mineral water and spring waters are very limited and therefore the source of the water used to package natural mineral water and spring water is required to be of very good quality in its natural state. In order to maintain the quality of the source of natural mineral water or spring water, the packager shall take suitable precautions to protect the source from any contamination. Other packaged groundwater may be treated as necessary using normal water treatment technologies in order to ensure the product is suitable for human consumption.

The source of the groundwater may be a borehole, dug well, spring or gallery. Dug wells, springs and galleries usually tap shallow groundwater which is more difficult to protect from contamination than groundwater

abstracted from a greater depth. Groundwater abstracted from a depth of 30 metres to 100 metres is more suitable as a supply for packaging than groundwater taken from shallow source.

When evaluating a potential supply of groundwater for packaging a hydrogeological assessment and survey shall be carried out in additional to microbiological and chemical analysis. It is recommended that, any potential source is monitored continuously for at least one year, before it is deemed suitable for development into a commercial groundwater packaging business. Where it is anticipated that the packaged groundwater will meet the requirements to be declared as natural mineral water the source should be continuously monitored for two years.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

Acknowledgements

NSAI wishes to acknowledge the participation of the individuals listed below in the development of this Standard:

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— Clada Group,

— Kerry Spring Water,

— Tipperary Mineral Water Company.

Schedule

Packaged groundwater

1 Scope

This Irish Standard applies to Irish groundwater placed in sealed packages where the water is piped directly from the source to the packaging facility, and which is distributed or sold for human consumption.

This Irish Standard does not apply to natural mineral water, spring water or other packaged groundwater to which anything other than carbon dioxide has been added.

This Irish standard defines the requirements for packaged Irish groundwater which may be classified as:

— natural mineral water,

— spring water,

— other packaged groundwater.

2 Normative references

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

BS 4027, *Specification for sulphate-resisting Portland cement*

I.S. EN ISO 6222, *Water Quality-Enumeration of Culturable Micro-organisms - Colony count of Inoculant in a Nutrient Agar culture medium*

I.S. EN ISO 7899-2, *Water quality-Detection and Enumeration of Intestinal Enterococci Part 2 Membrane Filtration method*

I.S. EN ISO 9308-1, *Water Quality-Detection and enumeration of Escherichia coli and Coliform bacteria Part 1 Membrane Filtration*

I.S. EN 12780, *Water Quality-Detection and Enumeration of Pseudomonas aeruginosa by membrane filtration*

I.S. EN 12903, *Products used for the treatment of water intended for human consumption. Powdered activated carbon*

3 Terms and definitions

For the purposes of this Standard, the following terms and definitions apply.

aquifer
geological unit that stores and can yield usable quantities of groundwater under normal hydraulic conditions

audit
systematic examination including inspection and verification to determine whether activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives