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Characterization of waste - Methodology for the Determination of the Leaching Behaviour of Waste under Specified Conditions

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Charakterisierung von Abfall - Vorgehensweise zur Bestimmung des Auslaugungsverhaltens von Abfall unter festgelegten Bedingungen

Caractérisation des déchets - Méthodologie pour la détermination du comportement à la lixiviation d'un déchet dans des conditions spécifiées

**Ta slovenski standard je istoveten z: EN 12920:2006/prA1**

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13.030.01

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ICS 13.030.01

English Version

## Characterization of waste - Methodology for the Determination of the Leaching Behaviour of Waste under Specified Conditions

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This draft amendment is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 292.

This draft amendment A1, if approved, will modify the European Standard EN 12920:2006. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

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

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## **Foreword**

This document (EN 12920:2006/prA1) has been prepared by Technical Committee CEN/TC 292 "Characterization of waste", the secretariat of which is held by NEN.

This document is currently submitted to the Unique Acceptance Procedure.

The object of this amendment to EN 12920:2006 is to indicate additions and modifications to this European Standard relating to aspects related to the methodology for wastes from the extractive industry. In this amendment changes have been made that are equally relevant for waste in general.

## 1 Modification to Clause 1, Scope

*Replace the first paragraph with:*

"This European Standard specifies a methodology for the determination of the leaching behaviour of a waste or a waste from the extractive industry under specified conditions (i.e. for a specified scenario including a specified time frame) in order to provide a solution to a defined problem. This applies to disposal and recovery scenarios."

*Add to the end of NOTE 2:*

"or the prediction of the acid generation behaviour waste from the extractive industry".

## 2 Modification to Clause 2, Terms and definitions

*Add the following definition:*

**"2.7**

### **acid generation behaviour of a waste**

release and change with time in release of low pH drainage derived from materials with an insufficient capacity to neutralize the acidic products of sulfide and elemental sulfur oxidation and the dissolution products of acid producing minerals and amorphous materials

NOTE Such behaviour occurs when the neutralisation potential is no longer capable of maintaining neutral pH conditions in a measurable volume of drainage. In the context of mining, this is referred to as acid rock drainage (ARD) or acid mine drainage (AMD)."

## 3 Modification to 3.2, Step 1: Definition of the problem and the solution sought

*Add to the end of the second indent:*

"or anticipated waste".

*Add the following NOTE:*

"NOTE 3 In the case of waste from the extractive industry, predictions of anticipated or expected waste characteristics should be made from information gathered on the material obtained during exploration prior to actual excavation."

## 4 Modification to 3.3, Step 2: Description of the scenario

*Add to the end of the third indent:*

"and mineral context".

*Replace NOTE 2 with:*

"NOTE 2 Description of hydrogeological conditions can include: sources of leachant ingress, infiltration rate, details of leachant circulation and/or collection and removal, permeability of the surrounding materials and nature of the leachant. Climatic conditions can be precipitation, wind, exposure to the sun, to temperature variation and to the atmosphere possibly leading to carbonation, or abiotic oxidation."

## EN 12920:2006/prA1:2008 (E)

*Add to the end of NOTE 3:*

", which can be active in degradation of organic matter, break down of organic contaminants or sulfate oxidation relevant for production of acid rock drainage (ARD). The mineral composition of the waste is very relevant in this context (see 3.3)".

*In NOTE 4 replace "abandonment" with "closure and rehabilitation".*

### **5 Modification to 3.4, Step 3: Description of the waste**

*Replace the last indent in the NOTE with:*

- "chemical properties (e.g. acid neutralisation capacity, acid forming potential, reducing capacity, degradable organic matter content and thermodynamic stability).".

### **6 Modification to 3.5, Step 4: Determination of the influence of parameters on leaching behaviour within the specified time frame**

*Replace NOTE 1 with:*

"NOTE 1 Relevant parameters influencing the leaching behaviour of the waste in the considered scenario can be:

- chemical parameters (e.g. nature of the leachant, effect of the chemical context of the disposal/recovery scenario in terms of pH, redox potential, CO<sub>2</sub>, salinity, dissolved organic matter, ANC and redox capacity);
- physical parameters (e.g. sensitivity to temperature, moisture absorption capacity, particle size, consistency or rheology, water transport dynamics, access of oxygen and carbon dioxide by gas transport);
- mechanical and geotechnical parameters (e.g. permeability, effect of the mechanical factors, such as compaction, likely to be applied in the proposed disposal/recovery scenario in relation to durability and which may influence leaching behaviour through its effect on water transport);
- biological parameters (e.g. biodegradation, biotransformation, gas emission, sulphide oxidation).".

*Replace the 2<sup>nd</sup> paragraph with:*

"Based on waste properties and the scenario under consideration (especially the specified time frame), the appropriate tests to assess release under the specified conditions are selected and performed. The rationale behind the selection of parameter specific tests, simulation tests or combinations of the two shall be documented in the study report.".

### **7 Modification to 3.8, Step 7: Conclusion**

*Insert the following NOTE after a):*

"NOTE The solution can be different from the one expected.".