



Designation: D8082 – 18

Standard Specification for Elemental Impurity Limits in Erosion Control Products used for Land Application¹

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1. Scope

1.1 This standard provides a specification for elemental impurity limits in erosion control products used for land application. Erosion control products may include but are not limited to: hydraulically-applied erosion control products, rolled erosion control products, sediment retention devices, gabions and mattresses, and articulated concrete block revetments.

1.2 *Units*—The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.3 All observed and calculated values shall conform to the guidelines for significant digits and rounding established in Practice D6026, unless superseded by this specification.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

D653 Terminology Relating to Soil, Rock, and Contained Fluids

D3740 Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as

Used in Engineering Design and Construction

D3987 Practice for Shake Extraction of Solid Waste with Water

D6026 Practice for Using Significant Digits in Geotechnical Data

2.2 Other Standards:³

40 CFR 503.13 Pollutant Limits

EPA Method 1312 Mass Transfer Rates of Constituents in Monolithic or Compacted Granular Materials Using a Semi-Dynamic Tank Leaching Procedure

EPA Method 6010D Inductively Coupled Plasma—Optical Emission Spectrometry

EPA Method 7000B Flame Atomic Absorption Spectrophotometry

EPA Method 6020A Inductively Coupled Plasma—Mass Spectrometry Lethal Dose 50 (LD₅₀) or Effective Concentration 50 (EC₅₀) Method

3. Terminology

3.1 Definitions:

3.1.1 For definitions of common technical terms used in this standard, refer to Terminology D653.

3.2 Acronyms:

3.2.1 ppm, n—parts per million

4. Specification Requirements

4.1 Elemental impurity limits in erosion control products used for land application shall not exceed the concentration values for the elemental impurities listed in Table 1.

5. Sampling

5.1 Follow sampling procedures given in ASTM Practice D3987 to obtain the samples and test specimens. Products which are impermeable such as plastics and metal products need not to be reduced below 100-gram sample sizes.

6. Test Methods

6.1 Use Practice D3987 or method EPA 1312 with extraction fluid #3 to extract the leachate.

¹ This test method is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.25 on Erosion and Sediment Control Technology.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For Annual Book of ASTM Standards volume information, refer to the standard's Document Summary page on the ASTM website.

³ For referenced Code of Federal Regulations and Environmental Protection Agency standards, visit their respective websites, www.gpo.gov/fdsys and www.epa.gov/hw.

TABLE 1 Elemental Impurity Limits in Erosion Control Products

Elemental Impurities	Concentration (ppm)
Arsenic	16
Cadmium	9
Chromium	100
Copper	750
Lead	100
Mercury	4
Nickel	210
Selenium	20
Zinc	1400

6.2 After extraction, use EPA Methods 6020A, 6010, or 7000B with detection limits below the lowest value for each elemental impurity in **Table 1** to determine the impurity analysis of the erosion control product.

6.3 Compare the values obtained from the impurity analysis to those values in **Table 1** to determine if the erosion control products meets the performance requirements.

NOTE 1—The quality of the result produced by this standard is dependent on the competence of the personnel performing it, and the

suitability of the equipment and facilities used. Agencies that meet the criteria of Practice **D3740** are generally considered capable of competent and objective testing/sampling/inspection/etc. Users of this standard are cautioned that compliance with Practice **D3740** does not in itself assure reliable results. Reliable results depend on many factors; Practice **D3740** provides a means of evaluating some of those factors.

7. Rejection and Retesting

7.1 Material that fails to conform to the requirements of this specification may be rejected. Rejection should be reported to the producer or supplier promptly and in writing. In case of dissatisfaction with the results of the test, the producer or supplier may make claim for a retesting.

7.2 The rejected products can also be retested using the appropriate toxicology tests such as LD₅₀ or EC₅₀ test procedure for further evaluation.

8. Keywords

8.1 elemental impurities; erosion control products; impurities; leachate, metals; limits

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