

4 **Method Name:** **Determination of Moisture in Hemp and Cannabis Plant Matter**
5
6

7 **Intended Use:** Consensus-based Reference method.
8

9 **1. Purpose:** AOAC SMPRs describe the minimum recommended performance characteristics to be used
10 during the evaluation of a method. The evaluation may be an on-site verification, a single-laboratory
11 validation, or a multi-site collaborative study. SMPRs are written and adopted by AOAC Stakeholder
12 Panels composed of representatives from the industry, regulatory organizations, contract
13 laboratories, test kit manufacturers, and academic institutions. AOAC SMPRs are used by AOAC Expert
14 Review Panels in their evaluation of validation study data for methods being considered for
15 *Performance Tested Methods* or *AOAC Official Methods of Analysis*, and can be used as acceptance
16 criteria for verification at user laboratories.
17

18 **2. Applicability:**
19 Determination of not more than (refer to line 82) than 15% moisture in dried, ground hemp and
20 cannabis plant material.
21

22 **3. Analytical Technique:**
23 Any analytical technique(s) that meets the following method performance requirements is/are
24 acceptable.
25

26 **4. Definitions:**
27
28

29 **Quantitative method**

30 Method of analysis which response is the amount of the analyte measured either directly
31 (enumeration in a mass or a volume), or indirectly (color, absorbance, impedance, etc.) in a certain
32 amount of sample.
33

34 **Repeatability**

35 Variation arising when all efforts are made to keep conditions constant by using the same
36 instrument and operator and repeating during a short time period. Expressed as the repeatability
37 standard deviation (SD_r); or % repeatability relative standard deviation (% RSD_r).
38

39 **Reproducibility**

40 The standard deviation or relative standard deviation calculated from among-laboratory data.
41 Expressed as the reproducibility standard deviation (SD_R); or % reproducibility relative standard
42 deviation (% RSD_R).
43
44

45 **Hemp Plant Materials**

46 Fresh or dried, whole or milled plant material of low-THC cultivars of *Cannabis* spp.
47
48

49 **5. Method Performance Requirements:**
50

51 See table 1.

52

53 **6. System suitability tests and/or analytical quality control:**

54 Suitable methods will include control samples, as appropriate for the method platform.

55

56

57 **7. Reference Material(s):**

58

59 Refer to Annex F: *Development and Use of In-House Reference Materials* in Appendix F: Guidelines
60 for Standard Method Performance Requirements, 19th Edition of the AOAC INTERNATIONAL Official
61 Methods of Analysis (2012). Available at: http://www.eoma.aoc.org/app_f.pdf

62

63 **8. Validation Guidance:**

64

65 Precision data are critical to this SMPR, special attention should be given to study design power and
66 acquiring robust precision data. See section 3.4.1 of Appendix K (referenced below) for
67 instructions to determine accuracy.

68

69 No criteria for accuracy are specified in this SMPR because no reference methods or reference
70 materials for moisture in hemp are available at the time of the development of this SMPR.
71 However, method developers must provide an estimate of the method accuracy and explain in
72 detail the procedure used to estimate accuracy, such as comparison with an alternate method. See
73 section 3.4.1 of Appendix K (referenced below) for instructions to determine accuracy.

74

75 An initial and important stage in cannabis testing is preparation of a homogeneous sample of the
76 plant material. Detailed and complete procedures for reproducible preparation of test samples
77 from the plant material must be addressed during method validation and those data must be
78 included in the method validation submission.

79

80 Validation should include data demonstrating performance for various samples with moisture levels
81 at different points within the method range, with some samples falling in the lower part of the range
82 and some in the higher part of the NMT 15% range. Most dried hemp samples are expected to
83 contain 4-12% moisture.

84

85

86

87 [Appendix D](#): Guidelines for Collaborative Study Procedures To Validate Characteristics of a Method
88 of Analysis; 19th Edition of the AOAC INTERNATIONAL Official Methods of Analysis (2012). Available
89 at: http://www.eoma.aoc.org/app_d.pdf

90

91 [Appendix F](#): Guidelines for Standard Method Performance Requirements; 19th Edition of the AOAC
92 INTERNATIONAL Official Methods of Analysis (2012). Available at:
93 http://www.eoma.aoc.org/app_f.pdf

94

95 [Appendix K](#): Guidelines for Dietary Supplements and Botanicals; 19th Edition of the AOAC
96 INTERNATIONAL Official Methods of Analysis (2012). Available on line at:
97 http://www.eoma.aoc.org/app_k.pdf

98

99

100 **9. Maximum Time-To-Result:** None

101

103
104
105

Table 1: Method performance requirements

Parameters	Ranges (%)
	< 15
% RSD _r	≤ 2
% RSD _R	≤ 6