



Standard Guide for Microcrystal Testing in Forensic Analysis of Methamphetamine and Amphetamine¹

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INTRODUCTION

Microcrystal tests are primarily chemical-precipitation tests in which a light microscope is used to observe and distinguish the different types of crystals formed. These tests require skill and expertise on the part of the analyst that can be gained adequately only through appropriate training and experience in their use. These tests should not be attempted by those who are unfamiliar with them for use in the analysis of methamphetamine or amphetamine.

1. Scope

1.1 This guide describes some standard procedures applicable to the analysis of methamphetamine and amphetamine using microcrystal tests **(1-6)**.²

1.2 These procedures are applicable to methamphetamine and amphetamine, which are present in solid dosage form or an injectable liquid form. These procedures are not typically applicable to the analysis of methamphetamine and amphetamine in biological samples.

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.4 *This standard cannot replace knowledge, skill, or ability acquired through appropriate education, training, and experience and should be used in conjunction with sound professional judgment.*

1.5 *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 and health practices and determine the applicability of regulatory limitations prior to use.*

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² The boldface numbers in parentheses refer to a list of references at the end of this standard.

2. Referenced Documents

2.1 *ASTM Standards*:³

E1459 Guide for Physical Evidence Labeling and Related Documentation

E1492 Practice for Receiving, Documenting, Storing, and Retrieving Evidence in a Forensic Science Laboratory

E1732 Terminology Relating to Forensic Science

E2329 Practice for Identification of Seized Drugs

E2548 Guide for Sampling Seized Drugs for Qualitative and Quantitative Analysis

3. Terminology

3.1 For definitions of terms used in this standard, refer to Terminology E1732.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *aggregation, n*—the collecting of units or parts into a mass or whole.

3.2.2 *birefringence, n*—property of some crystals, having more than one refraction index; this property will result in interference colors, which are viewed through a polarized light microscope.

3.2.3 *blades, n*—broad, flat, elongated crystals.

3.2.4 *grains, n*—thick tablets having nearly equal width, breadth and thickness.

3.2.5 *habit, n*—the external morphology of the crystal.

³ 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.