



Designation: E1102 – 91 (Reapproved 2022)

Standard Terminology Relating to Agricultural Chemical Application¹

This standard is issued under the fixed designation E1102; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 The purpose of this terminology standard is to establish uniformity in terms used in the field of agricultural chemical application. Terms are adopted from related fields and where applicable from Terminology E609.

1.2 The terms are appropriate to any agricultural chemical application. Units in parenthesis following a definition are meant as typical and are not exhaustive of all units available for the term.

1.3 *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

E609 Terminology Relating to Pesticides

3. Terminology

GENERAL CHEMICAL TERMS AND CHARACTERISTIC MEASUREMENTS

air flow rate—the flow rate of air, expressed in volume per relevant unit (ft^3/min , m^3/s , m^3/tree).

application rate—the amount of any material applied per unit treated:

active chemical rate—the amount of active ingredient (a.i.) applied per unit treated, expressed in terms of mass per relevant unit treated. (For area treatment, kg a.i./ha , lb a.i./A ,

or $\text{oz a.i./1000 ft. of row}$; for space application, mg a.i./m^3 , or oz a.i./1000 ft^3 ; for individual units, $\text{kg a.i./plant or animal}$).

formulation rate—the amount of chemical formulation applied per unit treated, expressed in terms of mass or volume per relevant unit treated. (For area treatment, kg/ha , lb/A , or oz/1000 ft of row ; for space application, mg/m^3 , or oz/1000 ft^3 ; for individual units, $\text{kg/plant or animal}$).

spray rate—the amount of spray liquid emitted by an application unit during treatment, expressed in volume per unit treated. (For area treatment, L/ha , or gal/A ; for space treatment, mL/m^3 , or oz/1000 ft^3 ; for individual units, L/plant , mL/animal , or gal/tree).

concentration—amount of the active ingredient contained in the chemical formulation expressed as a percent or mass per relevant unit basis.

cumulative droplet diameter ($D_{v,1}$ and $D_{v,9}$)—diameter of drop such that 10 % and 90 %, respectively, of the liquid volume is in drops of smaller diameter.

deposit rate—the amount of any material deposited per unit area.

active chemical deposit rate—the amount of active ingredient deposited per unit area.

formulation deposit rate—the amount of formulation deposited per unit area.

spray deposit rate—the amount of spray liquid deposited per unit area. Mean deposit rate is the average amount of deposit over the entire spray swath. Effective spray deposit rate is the mean deposit from center to center of adjoining swaths.

diluent—a gas, liquid, or solid used to reduce the concentration of an active ingredient in the formulation or application of a pesticide (see Terminology E609).

drift—the movement of chemicals outside the intended target by air mass transport or diffusion.

airborne drift—the dispersion of chemical particles to the atmosphere outside the intended target.

particle drift deposits—the deposition of chemical particles outside the intended target.

¹ These terminologies are under the jurisdiction of ASTM Committee E35 on Pesticides, Antimicrobials, and Alternative Control Agents and is the direct responsibility of Subcommittee E35.22 on Pesticide Formulations and Delivery Systems.

Current edition approved March 1, 2022. Published March 2022. Originally approved in 1986. Last previous edition approved in 2015 as E1102 – 91(2015). DOI: 10.1520/E1102-91R22.

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.