



Designation: E609 – 21

Standard Terminology Relating to Pesticides¹

This standard is issued under the fixed designation E609; 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. Referenced Documents

1.1 *ASTM Standards*:²

D483 Test Method for Unsulfonated Residue of Petroleum Plant Spray Oils

D1160 Test Method for Distillation of Petroleum Products at Reduced Pressure

1.2 *Federal Standard*:³

FDA 21CFR178.3620(c) Mineral oil

2. Terminology

absorption, *n*—a process in which one material (the absorbent) takes in and retains another (the absorbate).

amphoteric surfactant, *n*—a surface-active agent capable of forming, in aqueous solution, either surface-active anions or surface-active cations depending on the pH.

anionic surfactant, *n*—surface-active agent in which the hydrophilic portion of the molecule forms exclusively a negative ion (anion) when placed in aqueous solution.

antifreeze, *n*—a material that lowers the freezing point of a liquid formulation.

attractant, *n*—an agent that increases the attentive frequency of an organism.

avicide, *n*—a chemical used to kill, control, or cause other adverse effects on birds.

band application, *n*—an application of a pesticide to a continuous restricted area such as in or along a crop row rather than over the entire field area.

binder, *n*—a substance used in dry formulations to produce or enhance cohesion of solid particles.

broadcast application, *n*—the distribution of a material uniformly over the entire area to be treated and not just to portions of the area.

carcinogen, *n*—an agent producing or inciting cancerous growth.

carrier, *n*—(1) a gas, liquid, or solid used to propel or transport a pesticide; (2) an organism that bears an infectious agent, but that shows no marked symptoms of the disease caused by that agent.

chemical repellent, *n*—any substance whose odor, taste, appearance, tactile sensation, or combination thereof produces an aversion response in the target animal.

colorant, *n*—a material used to alter the color of a formulation.

contact herbicide, *n*—a chemical that kills those plant parts with which it comes into contact.

corrosion inhibitor, *n*—a material added to a product to reduce its tendency to degrade metals.

defoliant, *n*—a chemical that causes the foliage to drop from plants.

deposit, *n*—the amount of pesticide on a unit area of surface.

dermal toxicity, *n*—the toxic effect to an organism resulting from contact of the pesticide with the skin.

diluent, *n*—a gas, liquid, or solid used to reduce the concentration of an active ingredient in the formulation or application of a pesticide.

directed application, *n*—an application to a restricted area such as a row, bed, or at the base of plants.

disinfestant, *n*—an agent that kills, inactivates, or repels organisms in or on plants, animals, or inanimate objects.

dispersant, *n*—a material that inhibits the agglomeration of suspended particles by electrostatic or steric stabilization.

dormant oil, *n*—a horticultural spray oil applied during the dormant phase of the targeted plant. (See **horticultural mineral oil**.)

¹ This terminology is 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 June 1, 2021. Published August 2021. Originally approved in 1978. Last previous edition approved in 2019 as E609–19. DOI: 10.1520/E0609-21

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 Available from DLA Document Services, Building 4/D, 700 Robbins Ave., Philadelphia, PA 19111-5094, <http://quicksearch.dla.mil>.

- dose, dosage**, *n*—the quantity of substance applied per unit treated or applied to or entering an organism.
- drift**, *n*—The physical movement of an agrochemical through the air at the time of application or soon thereafter to any non or off target site. Drift shall not include movement to non or off-target sites caused by erosion, migration, volatility or wind blown soil particles that occur after application unless specifically advertised on the label.
- emulsifiable concentrate**, *n*—a single-phase liquid system having the property of forming an emulsion when mixed with water.
- emulsifier**, *n*—see **emulsifying agent**
- emulsifying agent**, *n*—a surfactant that promotes the dispersion of one immiscible liquid in another.
- emulsion**, *n*—a suspension of fine particles or globules of one or more liquids in another liquid.
- eradication**, *n*—the complete elimination of a pest from an area.
- fragrance**, *n*—an odorant used to mask another odor to impart a specific smell to a formulation.
- freeze protection agent**, *n*—a material that lowers the freezing point or helps to restore the formulation to its original state after freezing and thawing.
- freeze recovery agent**, *n*—a material, which aids in the restoring viscosity, homogeneity and other physical properties of a liquid formulation to the original properties before freezing and thawing.
- fumigant**, *n*—a chemical used in gaseous form to kill or inhibit pests.
- fungistat**, *n*—an agent that inhibits the germination of fungus spores or the development of mycelium.
- horticultural mineral oil**, *n*—an EPA registered pesticidal paraffinic spray oil for application on growing crops having a minimum unsulfonated residue of 92.0 % v/v by Test Method **D483**.
DISCUSSION—The distillation range should be narrow (80 °F or less) for the 90 % minus 10 % distillation points by Test Method **D1160** at 10 mm Hg and complying with FDA 21CFR178.3620(c).
- invert emulsion**, *n*—a water in oil emulsion also known as closed phase emulsion, total emulsion and invert.
- invert emulsion suspension**, *n*—a water in oil emulsion also known as a multiple emulsion.
- large particle emulsion**, *n*—see **quick breaking emulsion**.
- microemulsion**, *n*—a thermodynamically stable and optically transparent dispersion of one liquid in another immiscible liquid, usually stabilized by surfactants.
- miniemulsion**, *n*—a kinetically stable and optically translucent dispersion of one liquid in another immiscible liquid, usually stabilized by surfactants.
- nonionic surfactant**, *n*—a surface-active agent that has no ionizable functional groups.
- parasite**, *n*—an organism living in or on another living organism, obtaining from it part or all of its nutriment.
- pest**, *n*—an organism existing under circumstances that makes it undesirable.
- piscicide**, *n*—a chemical used to kill, control, or cause other adverse effects on fish.
- postemergence herbicide**, *n*—a chemical applied after emergence of the specified weed or crop.
- preemergence herbicide**, *n*—a chemical applied before emergence of a specified weed or planted crop.
- preservative**, *n*—a material that prolongs the useful life of an agrichemical by inhibiting decomposition by microorganisms.
- propellant**, *n*—an inert ingredient in pressurized products that provides the force necessary to dispense the formulation from its container.
- quick breaking emulsion**, *n*—an emulsion which separates into water and oil within 3 to 10 min after agitation is removed.
- rate**, *n*—the quantity of pesticide applied per unit treated.
- rainfastness**, *n*—The maintenance of biological effectiveness of an agrichemical formulation following a rain or overhead irrigation event.
- solvent**, *n*—a liquid that can dissolve another substance.
- soil application**, *n*—application of chemical made primarily to the soil rather than to vegetation.
- soil injection**, *n*—the mechanical placement of a pesticide beneath the soil surface with a minimum disturbance of the soil.
- spray drift**, *n*—the movement of airborne spray particles from the intended application (target) area.
- surfactant**, *n*—a material that improves the emulsifying, dispersing, spreading, wetting, or other surface-modifying properties of liquids.
- suspension**, *n*—a two-phase system consisting of a finely divided solid dispersed in a solid, liquid, or gas.
- suspension stabilizer**, *n*—a material that reduces the tendency of particles to settle.
- systemic disease**, *n*—a disease in which the pathogen or its products spread throughout the organism.
- thickener**, *n*—a material whose primary function is to increase the viscosity of a fluid.
- U.V. protectant**, *n*—a material that prevents or reduces degradation due to ultraviolet radiation.