



Kind of data required	(2) Notes	General use patterns								Test substance		Guide-lines reference No.	
		Terrestrial		Aquatic		Greenhouse		Forestry	Domestic outdoor	Indoor	Data to support MP		Data to support EP
		Food crop	Nonfood	Food crop	Nonfood	Food crop	Nonfood						
Analysis of samples .....	(iii) [CR]	[CR]	[CR]	[CR]	[CR]	[CR]	[CR]	[CR]	[CR]	[CR]	MP and TGAI.	EP* and TGAI.	151-23
Certification of limits .....	[R]	R	[R]	[R]	[R]	R	R	R	R	R	MP .....	EP* .....	151-25
Analytical methods .....	[R]	R	[R]	[R]	[R]	R	R	R	R	R	MP .....	EP* .....	151-25
Physical and chemical properties.	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	MP and TGAI.	EP* and TGAI.	151-26
Submittal of samples .....	(iv) [CR]	[CR]	[CR]	[CR]	[CR]	[CR]	[CR]	[CR]	[CR]	[CR]	MP and TGAI.	EP* TGAI and PAL.	151-27

Key: R=Required; CR=Conditionally required; MP=Manufacturing-use product; EP=End-use product (asterisk identifies those data requirements that end-use applicants (i.e., "formulators") must satisfy provided that their active ingredient(s) is (are) purchased from a registered source); TGAI=Technical grade of the active ingredient; [ ] =Brackets (i.e., [R], [CR]) indicate data requirements that apply when an experimental use permit is being sought.

(2) NOTES. The following notes are referenced in column two of the table contained in paragraph (a)(1) of this section.  
 (i) If the product is not already under full scale production and an experimental use permit is being sought, a discussion of unintentional ingredients shall be submitted to the extent this information is available.  
 (ii) If the product is not already under full scale production and an experimental use permit is being sought, a schematic diagram and/or description of the manufacturing process will suffice if the pesticide is not already under scale production.  
 (iii) Required to support registration of each manufacturing-use product and end use products produced by an integrated formulation system. Data on other end use products will be required on a case-by-case basis. For pesticide in the production stage, a rudimentary product analytical method and data will suffice to support an experimental use permit.  
 AAA(iv) Routinely required for products produced by an integrated formulation system. Required on a case-by-case basis for other products or materials.

(b) *Microbial pesticides-residue data requirements*—(1) Table. Sections 158.50 and 158.100 through 158.102 describe how to use this table to determine the microbial pesticides-residue data requirements and the substances to be tested.

Kind of data required	(2) Notes	General use patterns								Test substance		Guide-lines reference No.	
		Terrestrial		Aquatic		Greenhouse		Forestry	Domestic outdoor	Indoor	Data to support MP		Data to support EP
		Food crop	Nonfood	Food crop	Nonfood	Food crop	Nonfood						
Residue data .....	(i) [CR]	[CR]	[CR]	[CR]	[CR]	[CR]	[CR]	[CR]	[CR]	[CR]	.....	.....	153-4

Key: CR=Conditionally required data; EP=End-use product; MP=Manufacturing-use product; [ ] =Brackets (i.e., [CR]) indicate data requirements that apply when an experimental use permit is being sought.

(2) NOTES. The following notes are referenced in column two of the table contained in paragraph (b)(1) of this section.  
 (i) Residue data requirements shall apply to microbial pesticides when Tier II or Tier III toxicology data are required, as specified for microbial pesticides in (c)(1) of this section.  
 (ii) [Reserved]

(c) *Microbial pesticides-toxicology data requirements*—(1) Table. Sections 158.50 and 158.100 through 158.102 describe how to use this table to determine the microbial pesticides-toxicology data requirements and the substances to be tested.

Kind of data required	(2) Notes	General use patterns										Test substance		Guidelines reference No.		
		Terrestrial		Aquatic		Greenhouse		Forestry	Domestic outdoor	Indoor use	Data to support MP	Data to support EP				
		Food crop	Nonfood	Food crop	Nonfood	Food crop	Nonfood									
Tier I:																
Acute oral	(i)	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	152-30
Acute dermal		[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	152-31
Acute inhalation		[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	152-32
I.V., I.C., I.P. injection	(ii)	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	152-33
Primary dermal		[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	152-34
Primary eye		[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	152-35
Hypersensitivity study	(iii)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	152-36
Hypersensitivity incidents.	(iv)	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	152-37
Immune response	(v)	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	152-38
Tissue culture		[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]	152-39
Tier II:																
Acute oral	(vi)	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	152-40
Acute inhalation	(vii)	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	152-41
Subchronic oral	(viii)	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	152-42
Acute I.P., I.C.	(ix)	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	152-43
Primary dermal	(x)	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	152-44
Primary eye	(xi)	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	152-45
Immune response	(xii)	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	152-46
Teratogenicity	(xiii)	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	152-47
Virulence enhancement.	(xiv)	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	152-48
Mammalian mutagenicity.	(xv)	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	152-49
Tier III:																
Chronic feeding	(xvi)	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	152-50
Oncogenicity	(xvii)	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	151-51
Mutagenicity	(xviii)	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	152-52
Teratogenicity	(xix)	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	152-53

Key: R=Required; CR=Conditionally required; MP=Manufacturing-use product; EP=End use product (asterisk identifies those data requirements that end-use applicants (i.e., "formulators") must satisfy, provided that their active ingredient(s) is (are) purchased from a registered source); TGAI=Technical Grade of the Active Ingredient; [ ]=Brackets (i.e., [R], [CR]) indicate data requirements that apply when an experimental use permit is being sought.

(2) NOTES: The following notes are referenced in column two of the table contained in paragraph (c)(1) of this section.

(i) Required if 20 percent or more of the aerodynamic equivalent of the product (as registered or under conditions of use) is composed of particulates less than 10 microns in diameter.

(ii) Data required for products as follows:  
 (A) Intravenous ("IV") infectivity study for bacterial, and viral agents;  
 (B) Intracerebral ("IC") infectivity study for viral and protozoan agents; and

- (c) Intraperitoneal ("IP") infectivity study for fungal and protozoan agents.
- (iii) Required if commonly recognized use practices will result in repeated human contact by inhalation or dermal routes.
- (iv) Hypersensitivity incidents must be reported, if they occur.
- (v) Data required for products whose active ingredient is a virus.
- (vi) Required if survival, replication, infectivity, toxicity, or persistence of the microbial agent (virus or protozoa) is observed in the test animals treated in the Tier I acute oral infectivity tests or the intraperitoneal or intracerebral injection test for protozoa.
- (vii) Required if survival, replication, infectivity, toxicity, or persistence of the microbial agent (virus or protozoa) is observed in the test animals treated in the comparable Tier I acute inhalation tests.
- (viii) Required if there is evidence of survival, replication, infectivity, or persistence of the protozoan agent in the Tier I oral infectivity test.
- (ix) Required if in Tier I acute oral infectivity testing, Tier I dermal toxicity/infectivity testing, or Tier I intraperitoneal or intracerebral injection testing, the test microorganism (bacteria, fungi, or protozoa) survived for more than 2 weeks, caused toxic effects, or caused a severe illness response in an experimental animal as evidenced by irreversible gross pathology, severe weight loss, toxemia, or death.
- (x) Required if infectivity or if marked edema or broad erythema was observed in the Tier I dermal irritation study.
- (xi) Required if infectivity or if severe ocular lesions are observed in the Tier I primary eye irritation study.
- (xii) Required if results of the Tier I immune response test indicate abnormalities.
- (xiii) Required when Tier I tests on viral agents show replication of the virus in mammalian hosts and significant damage to mammalian cells.
- (xiv) Required when Tier I infectivity tests on bacteria or fungi indicate prolonged survival (including presence of viable microbial agents in test animal excreta) and/or multiplication (infectivity) of the bacteria or fungal agent, respectively.
- (xv) Required if any of the following criteria are met:
  - (A) Acute infectivity tests are positive in Tier I studies.
  - (B) Adverse effects are observed in immune response studies.
  - (C) Positive results are obtained in tissue culture tests with viral agents.
  - (D) Positive results are obtained in chronic adverse effects (e.g., replication or persistence of viral or subviral constituents, protozoans, fungi, or bacteria) are demonstrated by any of the Tier II tests (except primary dermal, primary ocular, and mammalian reproductive tests).
  - (E) Required when the potential for chronic adverse effects due to presence, replication, or persistence of viral or subviral constituents, or bacteria, fungi or protozoans, or mutagenic effects by any of the Tier II tests except the primary dermal and primary ocular studies.
  - (F) Required when the potential for mutagenic effects is indicated (e.g., adverse cellular effects due to presence, replication, or persistence of viral or subviral constituents, bacteria, fungi, or protozoa) by any of the Tier II tests except primary dermal or primary ocular studies.
  - (G) Required when the potential for teratogenic effects is expected based on the presence of persistence of fungi, bacteria, viruses, or protozoa in mammalian species as a result of testing performed in Tier II, except primary dermal and primary ocular studies.

(d) *Microbial pesticides non-target organism and environmental expression data requirements—(1) Table. Sections 158.50 and 158.100 through 158.102 describe how to use this table to determine the microbial pesticides non-target organism and environmental expression data requirements and substances to be tested.*

Kind of data required	(2) Notes	General use patterns										Test substance		Guide-lines reference No.
		Terrestrial		Aquatic		Greenhouse		Forestry	Domestic outdoor	Indoor use	Data to support MP	Data to support EP		
		Food crop	Nonfood	Food crop	Nonfood	Food crop	Nonfood							
Tier I: Avian oral .....	(i), (ii), (iii), (iv), (v)	[R]	[R]	[R]	[R]	CR	CR	[R]	[R]	CR	CR	TGAI	TGAI	154-16
Avian injection test ...	(i), (ii), (iii), (iv), (v)	[R]	[R]	[R]	[R]	CR	CR	[R]	[R]	CR	CR	TGAI	TGAI	154-17
Wild mammal testing	(i), (ii), (iii), (iv), (v)	CR	[R]	CR	[R]	CR	CR	CR	CR	CR	CR	TGAI	TGAI	154-18
Freshwater fish testing	(i)	[R]	[R]	[R]	[R]	CR	CR	[R]	[R]	CR	CR	TGAI	TGAI	154-19
Freshwater aquatic invertebrate testing.	(i)	[R]	[R]	[R]	[R]	CR	CR	[R]	[R]	CR	CR	TGAI	TGAI	154-20
Estuarine and marine animal testing.	(v)	CR	CR	CR	CR	CR	CR	CR	CR	CR	CR	TGAI	TGAI	154-2



- AAA(l) Tests for pesticides intended solely for indoor application will be required on a case-by-case basis, depending on use pattern, production volume, and other pertinent factors.
- AAA(m) Preferable test species are: bobwhite quail or mallard for avian acute oral and avian dietary studies; rainbow trout for freshwater fish studies.
- AAA(n) Data from either the avian acute oral or the avian injection study are required to support an experimental use permit.
- AAA(o) Required on a case-by-case basis if results of tests required by paragraph (c)(1) of this section are inadequate or inappropriate for assessment of hazards to wild animals.
- AAA(p) Required when product is intended for direct application into the estuarine or marine environment or expected to enter this environment in significant concentrations because of expected use or mobility pattern.
- AAA(q) Required when toxic or pathogenic effects are observed in any of the following Tier I tests for microbial pest control agents:
  - AAA(A) Avian single dose oral toxicity and pathogenicity tests.
  - AAA(B) Avian injection pathogenicity tests.
  - AAA(C) Wild mammals toxicity and pathogenicity test.
  - AAA(D) Plant studies—terrestrial.
  - AAA(E) Honey bee toxicity/pathogenicity test.
- AAA(r) Testing for toxicity/pathogenicity to insect predators and parasites.
- AAA(s) Required when toxic or pathogenic effects are observed in any of the following Tier I test for microbial pest control agents:
  - AAA(A) Freshwater fish toxicity and pathogenicity testing.
  - AAA(B) Freshwater aquatic invertebrate toxicity and pathogenicity test.
  - AAA(C) Plant studies—aquatic.
- AAA(t) Required if product is applied on land or in fresh water and toxic or pathogenic effects are observed in any of the following Tier I tests for microbial pest control agents:
  - AAA(A) Estuarine and marine animal toxicity and pathogenicity test.
  - AAA(B) Plant studies—estuarine or marine.
- AAA(u) Required if product is applied in marine or estuarine environments and toxic or pathogenic effects are observed in any of the following Tier I tests:
  - AAA(A) Avian single dose oral toxicity and pathogenicity test.
  - AAA(B) Avian injection pathogenicity test.
- AAA(v) Required when toxic effects on nontarget, terrestrial wildlife or aquatic organisms are reported in one or more Tier I tests and results of Tier II tests indicate exposure of the microbial agent to the affected nontarget terrestrial wildlife or aquatic organisms.
- AAA(x) Required when:
  - AAA(A) Pathogenic effects are observed in Tier I avian tests at a level equal to the adjusted host equivalent amount.
  - AAA(B) Chronic, carcinogenic, or teratogenic effects are reported in tests required by paragraph (c)(1) of this section for evaluating hazard to humans and domestic animals.
  - AAA(C) Tier II Environmental expression testing indicates that exposure of terrestrial animals to the microbial agent is likely.
- AAA(xii) Required when product is intended for use in water or expected to be transported to water from the intended use site, and when pathogenicity or infectivity was observed in Tier I tests.
  - AAA(xiii) Required when both of the following conditions are met:
    - AAA(A) Pathogenic effects at actual or expected field residue exposure levels are reported in Tier III.
    - AAA(B) The agency determines that quarantine methods will prevent the microbial pest control agent from contaminating areas adjacent to the test area.
  - AAA(xiv) Required if, after an analysis of the microbial agent's properties, the individual use patterns, and the results of previous nontarget organism and environmental expression tests, it is determined that use of the microbial agent may result in adverse effects on the nontarget organisms in aquatic environments, including those of the water column and bottom sediments. When a microbial pest control agent is used in or is expected to transport to water from the intended use site, major considerations for requiring these infectivity tests include, but are not limited to:
    - AAA(A) Infectivity or pathogenicity demonstrated in previous testing.
    - AAA(B) Viability of the microorganism in natural waters as demonstrated in Tier II tests.
  - AAA(xv) Required if the product is transported from the site of application by air, soil, or water or transmission by other animals. The extent of movement will be determined by the environmental expression tests in Tier II.
- AAA(xvi) The Agency expects that Tier IV requirements would be imposed retrospectively—after product registration as post registration monitoring, since it is unlikely a registrant would pursue registration of a microbial agent posing potential hazards such that testing beyond Tier III is required.
- AAA(xvii) Short term simulated or actual field studies are required when it is determined that the product is likely to cause adverse short-term or acute effects, based on consideration of available laboratory data, use patterns, and exposure rates.
- AAA(xviii) Data from a long-term simulated field test (e.g., where reproduction and growth of confined populations are observed) and/or an actual field test (e.g., where reproduction and growth of natural populations are observed) are required if laboratory data indicate adverse long-term, cumulative, or life-cycle effects may result from intended use.

[49 FR 42881, Oct. 24, 1984. Redesignated at 53 FR 15993, May 4, 1988, and amended at 58 FR 34203, June 23, 1993]

**Environmental Protection Agency**

**Pt. 158, App. A**

**APPENDIX A TO PART 158—DATA REQUIREMENTS FOR REGISTRATION: USE PATTERN INDEX**

How to use this Index:

1. Identify the Pesticide Use Site Group listed below (e.g., agricultural crops, forests, ornamental plants) that covers the specific use pattern of interest to you.
  2. Find your specific use pattern under the appropriate Pesticide Use Site Group.
  3. Identify the general use pattern that corresponds to your specific use pattern.
  4. Use the general use pattern in determining applicable data requirements on the Data Requirements tables presented in §§158.120 through 153.170.
- Pesticide use site group*
1. Agricultural Crops.
  2. Ornamental Plants and Forest Trees.
  3. General Soil Treatment and Composting.
  4. Processed or Manufactured Products, and food or feed containers or dispensers.
  5. Pets and Domestic Animals.
  6. Agricultural Premises and Equipment.
  7. Household.
  8. Wood or Wood Structure Protection Treatments.
  9. Aquatic sites.
  10. Noncrop, wide area, and general indoor/outdoor treatments.
  11. Antifouling treatments.
  12. Commercial and Industrial Uses.
  13. Domestic and Human Use.
  14. Miscellaneous Indoor Uses.

Specific use patterns—listed according to use site group	Corresponding general use pattern
<p>1. <i>Agricultural crops</i></p> <p>Small fruits</p> <p>Caneberries (e.g., raspberry, dewberry)</p> <p>Bushberries (e.g., blueberry, currant)</p> <p>Vine fruits (e.g., grape, kiwi fruit)</p> <p>Strawberry</p> <p>Cranberry</p> <p>Pome fruits (e.g., apple, quince)</p> <p>Stone fruits (e.g., peach, cherry)</p> <p>Nut crops—tree &amp; shrub (e.g., pecan, filbert)</p> <p>Other temperate fruits (e.g., persimmon, pawpaw)</p> <p>Tropical and subtropical fruits</p> <p>Citrus</p> <p>Banana and plantain</p> <p>Palm fruits and nuts (e.g., date, coconut)</p> <p>Pineapple</p> <p>Other fruits and nuts</p> <p>Beverage crops</p> <p>Woody—cocoa, coffee, tea</p> <p>Herbaceous—chicory, mint</p> <p>Flavoring and spice crops</p> <p>Woody—leaf/stem, root, seed and pod</p> <p>Herbac.—leaf/stem, root, seed and pod</p> <p>Vegetables—leaf/stem, root, seed and pod, fruiting vegetables, cucurbits</p>	<p>Terrestrial food crop</p>

Specific use patterns—listed according to use site group	Corresponding general use pattern
<p>Commercial annual (e.g., tomato, bean)</p> <p>Commercial perennial (e.g., asparagus, rhubarb)</p> <p>Greenhouse (commercial)</p> <p>Mushrooms</p> <p>Nursery/seed crop/medical crop/tobacco</p> <p>Fiber crops</p> <p>Cotton</p> <p>Others—(e.g., flax)</p> <p>Forage crops</p> <p>Typical grasses—annual (e.g., sudan grass)</p> <p>Typical grasses—perennial (e.g., bromegrass)</p> <p>Corn and sorghum</p> <p>Small grains for forage (e.g., rye)</p> <p>Perennial legumes (e.g., white clover)</p> <p>Annual legumes (e.g., crotalaria, soybean)</p> <p>Crop harvest residue (peanut vines, beet tops, etc.)</p> <p>Grain and edible seed crops</p> <p>Corn</p> <p>Rice</p> <p>Wheat, barley, rye, oats</p> <p>Sorghum</p> <p>Alfalfa</p> <p>Other grains</p> <p>Other nongrains (e.g., squash, pumpkin)</p> <p>Buckwheat</p> <p>Sesame</p> <p>Peanut</p> <p>Sunflower</p> <p>Seed sprout crops</p> <p>Mung bean, red clover, soybean, alfalfa, etc.</p> <p>Nonlegume crops (e.g., wheat, radish, black mustard)</p> <p>Crops grown exclusively for seed for planting</p> <p>Sugar crops</p> <p>Stored raw agricultural commodities</p> <p>Honey (principal nectar-producing crops)</p> <p>Sugar beet</p> <p>Sugarcane</p> <p>Sugar maple</p> <p>Sorghum (for sugar)</p> <p>Crops for smoking and chewing</p> <p>—field</p> <p>—shade</p> <p>—storage</p> <p>—greenhouses</p> <p>Sapodilla (for chewing gum)</p> <p>Oil crops</p> <p>Annual herbaceous crops</p> <p>Perennial herbaceous crops</p> <p>Tropical/subtropical woody crops</p> <p>Drug and medicinal crops</p> <p>Annual herbaceous crops</p> <p>Perennial herbaceous crops</p> <p>Temperate woody crops</p> <p>Tropical/subtropical wood crops</p>	<p>Greenhouse food crop</p> <p>Greenhouse non-food crop</p> <p>Terrestrial food crop</p> <p>Aquatic food crop</p> <p>Terrestrial food crop</p> <p>Indoor</p> <p>Terrestrial nonfood crop</p> <p>Terrestrial food crop</p> <p>Terrestrial nonfood crop</p>

Specific use patterns—listed according to use site group	Corresponding general use pattern	Specific use patterns—listed according to use site group	Corresponding general use pattern
<p><i>2. Ornamental plants and forest trees</i></p> <p>Ornamental plants</p> <p>Annual garden plants</p> <p>Temperate perennial nonfood garden herbs</p> <p>Commercial greenhouse crops</p> <p>Houseplants</p> <p>Home and retail greenhouse and conservatory plants</p> <p>Public display plantings</p> <p>Bulb, corm, and tuber ornamentals</p> <p>Subtropical/tropical garden evergreen plants (dry—e.g., agave)</p> <p>Subtropical/tropical garden evergreen plants (moist—e.g., ferns)</p> <p>Groundcovers</p> <p>Aquatic plants (e.g., waterlilies)</p> <p>Ornamental trees, shrubs, and vines (woody)</p> <p>Deciduous temperate broadleaf</p> <p>Evergreen temperate broadleaf</p> <p>Deciduous temperate conifer</p> <p>Evergreen temperate conifer</p> <p>Tropical/subtropical broadleaf</p> <p>Tropical/subtropical conifer</p> <p>Tropical/subtropical miscellaneous (e.g., cycad, tree fern, bamboo)</p> <p>Lawn and turf grasses—ornamental</p> <p>Cool season Winter grasses (bent, bluegrass, fescue, etc.)</p> <p>Summer grasses (zoysia, bermudagrass, etc.)</p> <p>Ornamental bunch grasses (pampasgrass, blue fescue)</p> <p>Forest trees—nonornamental—trees forests, plantings</p> <p>Deciduous temperate (broadleaf)</p> <p>Evergreen temperate (broadleaf)</p> <p>Deciduous and evergreen conifers</p> <p>Tropical/subtropical broadleaf</p> <p>Tropical/subtropical conifer</p> <p>Forest tree nurseries—Temperate broadleaf trees</p> <p>Temperate conifer trees</p> <p>Forest trees: dead trees/logs/stumps in the forest or in plantings</p> <p><i>3. General soil treatment and composting</i></p> <p>General soil treatments</p> <p>Soil application with no mention of crops to be grown (potting soil, top soil).</p> <p>Manure</p> <p>Composts</p> <p>Cull piles</p> <p>Mulches</p> <p><i>4. Processed or manufactured products, and food or feed containers or dispensers</i></p> <p>Processed vegetables, fruits, and nuts</p> <p>Fruits</p> <p>Leafy vegetables</p> <p>Root vegetables</p> <p>Fruited vegetables</p> <p>Nuts</p> <p>Peanuts</p>	<p>Terrestrial nonfood crop</p> <p>Greenhouse nonfood crop</p> <p>Indoor</p> <p>Terrestrial nonfood crop</p> <p>Aquatic nonfood use</p> <p>Terrestrial nonfood crop</p> <p>Terrestrial nonfood crop or domestic outdoor</p> <p>Forestry</p> <p>Terrestrial nonfood crop</p> <p>Indoor</p>	<p>Seeds (sesame, sunflower)</p> <p>Dried processed</p> <p>Fruits</p> <p>Vegetables</p> <p>Tobacco</p> <p>Beverages (tea, coffee)</p> <p>Herbs and spices</p> <p>Animal Feeds</p> <p>Cattle (beef)</p> <p>Cattle (dairy)</p> <p>Goat (nondairy)</p> <p>Goat (dairy)</p> <p>Horse, mule, donkey</p> <p>Poultry (chicken, turkey, etc.)</p> <p>Sheep (meat)</p> <p>Sheep (wool)</p> <p>Swine</p> <p>Dog</p> <p>Cat</p> <p>Other pets (including birds)</p> <p>Fur-bearing stock</p> <p>Other meat-producing stock (e.g., rabbit)</p> <p>Fish food (commercial)</p> <p>Fish food (pet)</p> <p>Birdseed</p> <p>Processed grain products for human consumption</p> <p>Corn</p> <p>Soybean</p> <p>Wheat</p> <p>Other grains (rice, barley, etc.)</p> <p>Cereal foods</p> <p>Flour</p> <p>Baked goods</p> <p>Farinaceous products</p> <p>Processed animal products for human consumption</p> <p>Cheese</p> <p>Egg yolks</p> <p>Meats, including fish and poultry</p> <p>Milk</p> <p>Processed plant products for human consumption</p> <p>Chocolate</p> <p>Candy</p> <p>Sugar</p> <p>Yeast</p> <p>Citrus pulp</p> <p>Chewing gum</p> <p>Cigarettes, etc.</p> <p>Herbs and spices</p> <p>Pickles</p> <p>Glazed fruits</p> <p>Jellies</p> <p>Seed oils</p> <p>Fruit syrups (e.g., cola)</p> <p>Fruit juices</p> <p>Fermentation beverages (wine, beer, whiskey, vinegar)</p> <p>Processed or manufactured nonfood plant and animal products</p> <p>Textiles, fabrics, fibers</p> <p>Fur and hair products</p> <p>Leather products</p> <p>Food and feed containers, dispensers, and processing equipment</p> <p>Airtight storages—large (empty/full)</p> <p>Airtight storages—small (empty/full)</p> <p>Fumigation chambers</p> <p>Bins</p> <p>Elevators</p>	





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Specific use patterns—listed according to use site group	Corresponding general use pattern	Specific use patterns—listed according to use site group	Corresponding general use pattern
Industrial ponds Human drinking water Cooling water towers Agricultural irrigation water, and ditches Agricultural drainage water and ditches Sewage systems and drainfields Dishwashing water Domestic and commercial nonpotable water Lakes, ponds, impounded water Streams, rivers, canals Swamps, marshes, wetlands Air conditioner water Humidifier water Air washer water systems Secondary oil recovery injection water Heat exchange water system Polluted water Bait boards (floating—for vertebrate control) Catch basins, puddles, tree holes Estuaries, tidal marshes Commercial and sport fish-bearing waters 10. <i>Noncrop, wide area, and general indoor/outdoor treatments</i> Uncultivated agricultural areas (nonfood producing) Farmyards Fuel storage areas Fence rows Rights-of-way Fallow land Soil bank land Barrier strips Uncultivated nonagricultural areas (outdoor) Airports Recreation areas, fairgrounds, race tracks, tennis courts, etc. Campgrounds Recreation area structures Highway rights-of-way Railroad rights-of-way Utility rights-of-way Sewage disposal areas Industrial sites (lumberyards, tank farms, etc.) Paved areas Private roads and walks Fencerows and hedgerows (non-agricultural) Directed Pest Control to Pests' Nests, etc., and for Traps Diseased beehives Nuisance bee nests Ant mounds, hills, dens Termite mounds Insect traps (chemical lures) Repellents and irritants to pests (when not covered by other sites) Wide area and general indoor/outdoor treatments Rural areas (unspecified) Urban areas (unspecified) Public buildings and structures Animal burrow entrances, dens, tunnels Animal nests Animal trails Mammal feeding areas	Aquatic food crop Aquatic noncrop Aquatic food crop Aquatic noncrop Indoor Aquatic noncrop Aquatic food crop Terrestrial noncrop Terrestrial food crop Terrestrial noncrop Terrestrial noncrop or indoor	Nonagricultural areas for public health treatments Bird roosting, nesting areas Bird feeding areas 11. <i>Antifouling Treatments</i> Sites for marine exposures Boat bottoms and other submersed structures Steel Fiberglass Aluminum Wood Plastic Other substances and materials Crab pots and lobster pots Sites for fresh water exposures Cooling tower influent conduits 12. <i>Commercial and Industrial Uses</i> Transportation Facilities Bus Truck and Trailer Containerized units Railroad cars Aircraft Ships/barges Auto, taxis Recreational vehicles Shipping containers Food and feed processing plants Bakeries Bottlers Canneries Dairies, creameries, milk processing plants Feed mills, feed stores Fresh fruit packing and processing Meat processing Poultry processing Wineries, wine cellars Flour mills, machinery, warehouses, bins, elevators Egg processing Candy and confectionary plants Sugar processing, cane mills, etc. Cider mills Dry food products plants Tobacco processing Air treatment for processing and transportation of foods Beverage processing Nut processing Cereal processing Seafood processing Vegetable oil processing Spice mills Vinegar processing Farinaceous processing (noodles, etc.) Mushroom processing Dried fruit processing Pickle processing Ice plants Chocolate processing Fruit juice processing Eating establishments (all) Food handling areas Food serving areas Eating establishment nonfood areas Air treatment for eating establishments Food storage equipment (coolers, refrigerators, etc.)	Aquatic noncrop Aquatic noncrop Indoor

Environmental Protection Agency

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Specific use patterns—listed according to use site group	Corresponding general use pattern	Specific use patterns—listed according to use site group	Corresponding general use pattern
<p>Eating and serving utensils (spoons, etc.)</p> <p>Food marketing, storage, and distribution</p> <p>Food dispensing and vending equipment</p> <p>Food stores, markets, stands</p> <p>Meat and fish markets</p> <p>Food catering facilities</p> <p>Food marketing, storage, and distribution equipment and utensils</p> <p>Hospitals and related institutions and facilities</p> <p>Critical premises (e.g., burn wards, etc.)</p> <p>Hospital patient premises (wards, emergency rooms, etc.)</p> <p>Noncritical premises (labs, lounges, lobbies, storage)</p> <p>Critical items (hypodermic needles, dental instruments, catheters, etc.)</p> <p>Noncritical items (bedpans, carpets, furniture, etc.)</p> <p>Air treatment (also to ambulances)</p> <p>Janitorial equipment</p> <p>Barber and beauty shop instruments and equipment</p> <p>Morgues, mortuaries, and funeral homes</p> <p>Premises (embalming rooms, etc.)</p> <p>Equipment (tables, etc.)</p> <p>Instruments</p> <p>Burial vaults, mausoleums</p> <p>Air treatment</p> <p>Commercial, institutional, and industrial</p> <p>Maintenance, Buildings, and Structures</p> <p>Locker rooms, equipment</p> <p>Gyms, bowling alleys, and equipment</p> <p>Telephones and booths</p> <p>Shower rooms, mats, and equipment</p> <p>Cotton mill premises and equipment</p> <p>Auditoriums and stadiums</p> <p>Factories</p> <p>Rendering plants</p> <p>Loading areas, ramps</p> <p>School buildings and equipment</p> <p>Office buildings</p> <p>Laundries</p> <p>Fuels from Crops (alcohol, methane)</p> <p>Fossil fuels (e.g., oils, jet fuel)</p> <p>Seed oils</p> <p>Paper</p> <p>Pesticide materials preservation and protection</p> <p>Rodenticide baits (protection against insects)</p> <p>Dried plant parts (pyrethrum, red squill, rotenone, sabadilla)</p> <p>Paints</p> <p>Preservatives and protectants</p> <p>Grains</p> <p>Hay, silage</p> <p>Adhesives</p> <p>Coatings (asphalt and lacquer)</p> <p>Fuels</p> <p>Leather and leather products</p> <p>Leather processing liquors</p> <p>Metalworking cutting fluids</p> <p>Oil recovery drilling muds and packer fluids</p>		<p>Paints (latex)</p> <p>Paper and paper products</p> <p>Plastic products</p> <p>Resin emulsions</p> <p>Rubber (natural) products</p> <p>Specialty products (polishes, cleansers, dyes, etc.)</p> <p>Textiles, textile fibers, and cordage</p> <p>Wet-end additives, etc. (pulp sizing, alum, casein, printing pastes)</p> <p>Disposable diapers</p> <p>Wool, hair, mohair, furs, felt, feathers, etc.</p> <p>Electrical supplies, cables, and equipment</p> <p>13. <i>Domestic and Human Use</i></p> <p>Human Body and Hair</p> <p>Fiber product protection (Moth, mildew-proofing)</p> <p>Clothing</p> <p>Upholstery</p> <p>Ornamental fabrics (draperies, tapestries)</p> <p>Ropes</p> <p>Sail cloth</p> <p>Human articles and materials</p> <p>Bedding, blankets, mattresses (Treatments to hair, body, clothing (while being worn)</p> <p>Clothing</p> <p>Face gear (goggles, face masks, etc.)</p> <p>Headgear (safety helmets, headphones, etc.)</p> <p>Wigs</p> <p>Contact lenses</p> <p>Dentures, toothbrushes, mouthpieces to musical instruments, etc.</p> <p>Brick, asbestos, etc.</p> <p>Wood surfaces</p> <p>Leather surfaces</p> <p>Fabric surfaces</p> <p>Paper/paperboard surfaces</p> <p>Specialty uses</p> <p>Museum collectors (preserved animal and plant specimens)</p> <p>Military uses—not specified</p> <p>Quarantine uses—not specified</p> <p>DHHS/FDA uses—not specified</p> <p>Filters (air conditioning, air, and furnace)</p> <p>Biological specimens</p> <p>Underground cables</p> <p>Cuspidors, spittoons</p> <p>Vomitus</p> <p>Human wastes</p> <p>Air sanitizers</p> <p>Diapers</p> <p>Laundry equipment (carts, chutes, tables, etc.)</p> <p>Dust control—products and equipment (mops, etc.)</p> <p>Dry cleaning</p> <p>Carpets</p> <p>Upholstery</p> <p>Bathrooms, toilets bowls, and related sites</p> <p>Bathroom premises</p> <p>Toilet bowls and urinals</p> <p>Toilet tanks</p> <p>Portable toilets, chemical toilets</p>	<p>Indoor</p>

Specific use patterns—listed according to use site group	Corresponding general use pattern
Vehicular holding tanks Bathroom air treatment Diaper pails Refuse and soild waste Refuse and solid waste containers Refuse and solid waste transportation and handling equipment Garbage dumps Household trash compactors Garbage disposal units, food disposals Incinerators 14. <i>Miscellaneous Indoor Uses</i> Surface Treatments Hard nonporous surfaces (painted, tile, plastic, metal, glass, etc.) Hard porous surfaces (cement, plaster) Camping equipment and gear Grooming instruments (brushes, clippers, razors, etc.) Laundry, cleaning, and dry cleaning	Indoor

## PART 159—STATEMENTS OF POLICIES AND INTERPRETATIONS

### Subparts A–C [Reserved]

#### Subpart D—Reporting Requirements for Risk/Benefit Information

##### Sec.

- 159.152 What the law requires of registrants.  
 159.153 Definitions.  
 159.155 When information must be submitted.  
 159.156 How information must be submitted.  
 159.158 What information must be submitted.  
 159.159 Information obtained before promulgation of the rule.  
 159.160 Obligations of former registrants.  
 159.165 Toxicological and ecological studies.  
 159.167 Discontinued studies.  
 159.170 Human epidemiological and exposure studies.  
 159.178 Information on pesticides in or on food, feed, or water.  
 159.179 Metabolites, degradates, contaminants, and impurities.  
 159.184 Toxic or adverse effect incident reports.  
 159.188 Failure of performance information.  
 159.195 Reporting of other information.

AUTHORITY: 7 U.S.C. 136–136y.

SOURCE: 63 FR 49388, Sept. 19, 1997, unless otherwise noted.

### Subparts A–C [Reserved]

#### Subpart D—Reporting Requirements for Risk/Benefit Information

##### § 159.152 What the law requires of registrants.

(a) Section 6(a)(2) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) states: “If at any time after the registration of a pesticide the registrant has additional factual information regarding unreasonable adverse effects on the environment of the pesticide, he shall submit such information to the Administrator.”

(b) Section 152.50(f)(3) of this chapter requires applicants to submit, as part of an application for registration, any factual information of which he is aware regarding unreasonable adverse effects of the pesticide on humans or the environment, which would be required to be reported under section 6(a)(2) if the product were registered.

(c) Compliance with this part will satisfy a registrant’s obligations to submit additional information pursuant to section 6(a)(2) and will satisfy an applicant’s obligation to submit additional information pursuant to § 152.50(f)(3) of this chapter.

##### § 159.153 Definitions.

(a) For the purposes of reporting information pursuant to FIFRA section 6(a)(2), the definitions set forth in FIFRA section 2 and in 40 CFR part 152 apply to this part unless superseded by a definition in paragraph (b) of this section.

(b) For purposes of reporting information pursuant to FIFRA section 6(a)(2), the following definitions apply only to this part:

*Established level* means a tolerance, temporary tolerance, food additive regulation, action level, or other limitation on pesticide residues imposed by law, regulation, or other authority.

*Formal Review* means Special Review, Rebuttable Presumption Against Registration (RPAR), FIFRA section 6(c) suspension proceeding, or FIFRA section 6(b) cancellation proceeding, whether completed or not.

*Hospitalization* means admission for treatment to a hospital, clinic or other health care facility. Treatment as an