in crops at the appropriate plant back intervals (taking into account plant back restrictions on product labels) in the confined rotational crop study. If residues of concern in the confined study are greater than 0.01 ppm but less than the limit of quantitation of the analytical method to be used on field trial samples, the Agency will consider not requiring, on a case-by-case basis, the limited field trials. If there are particular toxicological concerns with the parent pesticide or any metabolites, limited field studies may be needed if such residues are identified at levels below 0.01 ppm in the confined study.

24. Crop field trials are required to establish tolerances on rotational crops when quantifiable residues of concern are observed in the field rotational crops study.

25. Not required for an exemption from a tolerance provided that dietary exposure estimates are not needed due to low toxicity or that theoretical estimates of exposure are adequate to assess dietary risk.

26. Not required for an exemption from a tolerance.

Subparts P – T [Reserved]

§§ 158.1500 – 158.1900 [Reserved]

Subpart U—Biochemical Pesticides [Reserved]

§ 158.2000 [Reserved]

Subpart V—Microbial Pesticides [Reserved]

§ 158.2100 [Reserved]

Subpart W—Antimicrobial Pesticides [Reserved]

§ 158.2200 [Reserved]

Subparts X – Z [Reserved]

§§ 158.2300 – 158.2500 [Reserved]

[FR Doc. E7–20826 Filed 10–25–07; 8:45 am]

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 158

[EPA–HQ–OPP–2004–0415; FRL–8109–8]

RIN 2070–AD51

Pesticides; Data Requirements for Biochemical and Microbial Pesticides

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final Rule.

SUMMARY: This is the final rule for Biochemical and Microbial Pesticide Data Requirements. The Agency published a proposed rule on March 8, 2006, on the data requirements to support registration of biochemical and microbial pesticides and proposed to update definitions for both biochemical and microbial pesticides. The Agency received comments from 20 commenters, representing State and Federal agencies, industry, and private consultants.

DATES: This rule is effective on December 26, 2007.

ADDRESSES: EPA has established a docket for this action under Docket identification number EPA-HQ-OPP-2004-0415. All documents in the docket are listed on the regulations.gov web site. Although listed in the index, some information is not publicly available, i.e., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through www.regulations.gov or in hard copy at the Office of Pesticide Programs (OPP) Regulatory Public Docket (7502P), Room S-4400, One Potomac Yard (South Building), 2777 S. Crystal Drive, Arlington, VA 22202. This Docket is open from 8:30 a.m. to 4 p.m., Monday through Friday, excluding legal holidays. The Docket telephone number is (703) 305-5805 .

FOR FURTHER INFORMATION CONTACT: Candace Brassard or Nathanael Martin, U.S. Environmental Protection Agency (7506P), 1200 Pennsylvania Ave., NW., Washington, DC 20460, telephone: 703-305-6598 or 703-305-6475, e-mail: *brassard.candace@epa.gov* or *martin.nathanael@epa.gov*.

SUPPLEMENTARY INFORMATION:

I. General Information

A. Does this Action Apply to Me?

You may be potentially affected by this action if you are a producer or registrant of a biochemical or microbial pesticide product. This action may also affect any person or company that might petition the Agency for new tolerances for biochemical or microbial pesticides, or hold a pesticide registration with existing tolerances, any person or company interested in obtaining or retaining a tolerance in the absence of a registration. Potentially affected entities may include, but are not limited to:

- Crop Production (NAICS code 111).
- Animal Production (NAICS code 112).
- Food Manufacturing and Processing (NAICS code 311).
- Chemical Producers (NAICS code 32532), e.g., pesticide manufacturers or formulators of pesticide products, importers, or any person or company that seeks to register a pesticide or obtain a tolerance for a pesticide.

This listing is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this action. Other types of entities not listed in this unit could also be affected. The North American Industrial Classification System (NAICS) codes have been provided to assist you and others in determining whether this action might apply to certain entities. To determine whether you or your business may be affected by this action, you should carefully examine the applicability provisions in Unit II. If you have any questions regarding the applicability of this action to a particular entity, consult the persons listed under **FOR FURTHER INFORMATION CONTACT** or visit the following Web site: *http://www.epa.gov/pesticides/biopesticides/*.

B. How Can I Access Electronic Copies of this Document and Other Related Information?

All documents in the docket are listed in the docket index at *http://www.regulations.gov* under docket number EPA–HQ–OPP–2004–0415. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either in the electronic docket at *http://www.regulations.gov*, or, if only available in hard copy, at the Office of Pesticide Programs (OPP) Regulatory Public Docket in Rm. S-4400, One Potomac Yard (South Building), 2777 S. Crystal Drive, Arlington, VA. The hours of operation of this docket facility are from 8:30 a.m. to 4:00 p.m., Monday through Friday, excluding legal holidays. The Docket telephone number is 703-305-5805.

II. Overview of This Document

EPA published a notice of proposed rulemaking in the **Federal Register** on March 8, 2006 (71 FR 12072) for Data Requirements for Biochemical and Microbial Pesticides. This document is the final rule and the response to comments on the proposed rule. EPA received comments from 20 commenters, raising 58 comments on various data requirement issues for biochemical and microbial pesticides. A total of 11 comments concerning the definition of a biochemical pesticide and 5 comments concerning the

definition of a microbial pesticide were received. Of the 20 commenters, 15 were from industry or private consulting firms, 4 were from State/Federal/international governments, and 1 was from a public interest group.

In response to comments, EPA is modifying some aspects of the rule relating to types of products being tested, i.e., technical grade active ingredient (TGAI) versus typical end-product (TEP), modifying some test notes where appropriate, adding or deleting some data requirements, and modifying the definition of a microbial pesticide.

The final rule updates the definitions of a biochemical pesticide and a microbial pesticide to more accurately describe these categories of pesticides, and to make a conforming change to the definition of microbial pesticide in 40 CFR 172.43. The rule also informs the public how the Agency will assist applicants in determining what data are appropriate to support registration of a biochemical or microbial pesticide. EPA encourages applicants to request pre-submission meetings to discuss these data issues. The final rule also provides for assistance to applicants, in some narrow circumstances, in preparation of an applicant's data waiver.

As an ancillary matter, this final rule is making certain technical changes necessitated by EPA's decision to create new part 161 to contain data requirements specific to antimicrobial pesticides. New part 161 is discussed fully in the final rule for conventional pesticides published elsewhere in this issue of the **Federal Register**. By transferring essentially intact the current part 158 requirements, EPA would also be transferring material pertaining to biochemical and microbial pesticides that is not intended to be covered by part 161. Specifically, EPA is removing §§ 161.65, 161.690 and 161.740, the freestanding sections devoted exclusively to biochemical and microbial pesticides.

This final rule is one in a series of proposed and final rules to update and clarify pesticide data requirements.

III. The Proposed Rule and Related Proposal for Conventional Chemicals

On March 8, 2006, the Agency published a notice of proposed rulemaking for Biochemical and Microbial Pesticide Data Requirements (71 FR 12072). The Agency received submissions from 20 commenters. This final rule describes briefly the background of the final rule and responds to key issues raised by commenters.

A. General Background on the Phased Rulemaking Approach

EPA is responsible for registration of the following categories of pesticides: biochemicals, microbials, plant-incorporated protectants, conventional pesticides, and antimicrobial pesticides. These pesticides, although regulated under the same statutory standards under FIFRA and FFDCA, pose different levels of risk and exposure that lead to significant differences in data needs. EPA has embarked on a series of rulemakings intended to update data requirements for the various types of pesticides. This final rule is the second and builds on the previous update for conventional chemicals.

Elsewhere in this issue of the **Federal Register** EPA published a final rule to update and revise its data requirements for the registration of conventional pesticides. In addition to specific changes to the data requirements for registration of conventional pesticides, EPA made a number of other changes to the general provisions of part 158. Specifically, subpart A of the rule for conventional chemicals describes general provisions including definitions, format of data submissions, policies on Confidential Business Information (CBI), flagging criteria, waivers, and minor uses. Subpart B of the rule for conventional chemicals describes expanded use patterns, clarifications on using the data tables, identifying data for Experimental Use Permits (EUPs), test guidelines, and purpose of the registration data requirements.

EPA proposed to also upgrade the structure of part 158, assigning biochemical data requirements to subpart L and microbial pesticide data requirements to subpart M of part 158. As a result of the comments on the proposed rule for conventional pesticides, EPA has restructured part 158. Biochemical pesticide data requirements will now be under subpart U and microbial pesticide data requirements will be under subpart V.

B. General Provisions and Format

As described in the final rule on Conventional Pesticides published elsewhere in this issue of the **Federal Register**, EPA has reorganized and reformatted part 158, subpart A (General Provisions) and subpart B (How to Use Data Tables), and reorganized and redesignated subpart D (Data Requirement Tables) into a number of individual subparts.

Many of the revisions are intended to improve the usefulness of part 158 data tables by better identifying the specific data requirements that could apply to a particular pesticide application. As with the original design of part 158 in 1984, given the variety in pesticide chemistry, exposure, and hazard, these revisions are intended to retain a fair amount of flexibility in their application, while improving clarity and transparency to the regulated community.

C. Required and Conditionally Required Data Requirements

As with conventional pesticides, the R/CR terminology is a general presentation of the likelihood that a data requirement will apply. The use of R does not necessarily indicate that a study is always required, but that it is more likely to be required than not. The use of CR means a study is less likely to be required. However, both R and CR designations must be read in the context of the accompanying test notes to the table. An applicant may assume that a data requirement with R will typically be required all the time. The test notes accompanying that R designation may provide supplementary information or identify some condition(s) when the study is not required. A CR designation will generally include more extensive test notes describing the limited conditionality of the requirement. The final rule continues this longstanding practice. EPA revised some of the test notes to clarify the conditions under which the data would be required.

IV. Regulation of Biochemical and Microbial Pesticides and Response to Comments Discussion

A. Background of Regulating Biochemical and Microbial Pesticides

This document is the final rule for the Biochemical and Microbial Pesticide Data Requirements. This document also finalizes definitions of both a biochemical and microbial pesticide. The Agency issued a Notice of Proposed Rulemaking on Biochemical and Microbial Pesticide Data Requirements, 71 FR 12072; March 8, 2006. This notice was an update of the biochemical and microbial pesticide data requirements to support the registration of biochemical and microbial pesticides originally promulgated in 1984.

B. Consultations with Applicants

In the preamble to the proposed rule, the Agency discussed a process for consultations with applicants. The public responses were in favor of the Agency recognizing that applicants often needed assistance in determining what information or data are appropriate to support registration of a biochemical or microbial pesticide.

Therefore, EPA will continue to encourage applicants to request pre-submission meetings to discuss these data issues. EPA will also continue to provide assistance to applicants in some narrow circumstances in preparation of an applicant's data waiver after submission of an application.

EPA encourages applicants to seek pre-submission meetings to discuss the appropriate data or information to support their product and the opportunity for requesting data waivers. During the pre-submission meeting, EPA may be aware that certain data requirements are already satisfied by available data or information. Sources of existing data include public literature and/or studies submitted by another registrant, which may be cited by the applicant in accordance with relevant data compensation procedures. EPA may also be aware of sound scientific rationales that render certain testing unnecessary. Ultimately, the applicant may submit an application based on the discussion with EPA, along with a signed copy of the minutes (which have been concurred on by the Agency) of the pre-submission meeting listing each data requirement and the reason why EPA and the company believe a waiver is appropriate.

In addition, the Agency is offering a post-submission process. Even after submission of an application for registration, EPA may find that either of these scenarios may exist (i.e., basis for citing to other data or information, or waiver of a data requirement). Again, EPA may discuss these issues with the applicant and the applicant may choose to amend its application by citing to other data/information or requesting a waiver.

This pre-submission and post-submission process for ensuring that the data requirements are either satisfied or waived is specific to the review of biochemical and microbial registration applications, due primarily to the specific nature and circumstances unique to these pesticides (e.g., information already known to the Agency) and thus the Agency does not anticipate this process being widely applicable to other types of pesticides, such as conventional or antimicrobial pesticides.

EPA notes that in providing this assistance during the pre-submission and post-submission process, it will only consider readily accessible information, such as information found in Agency databases, and will not search for applicable information, data, or literature. Further, although this process is intended to help applicants in supporting their applications, EPA does not encourage applicants to rely on this process to fill informational data gaps; doing so may be at the expense of timely review or may ultimately result in rejection of an application or petition.

Finally, providing assistance in this manner does not effectively allow applicants to circumvent the data requirements or the requirement to submit a request for waiver of a data requirement. The applicant must at all times submit the waiver request; EPA is simply providing assistance in identifying what requirements are likely to be waived for a particular product or, in some narrow circumstances, assistance in the preparation of the waiver request. Because we are using the pre-and post-submission process to assist applicants in filing their own waiver requests, we are not amending the existing waiver provisions at 40 CFR 158.45.

C. Agency Coordination with the APHIS Permitting Process

EPA requested comment on whether the Agency should coordinate with USDA for reviewing microbial pesticides prior to registration. The Agency was prompted by USDA's need for coordination when an Animal and Plant Health Inspection Service (APHIS) movement permit under 7 CFR part 340 is needed. USDA suggested that registrants be required to submit a copy of the applicable APHIS permits as part of the registration application to EPA. After discussing this issue with USDA, EPA is developing a process for coordinating the review of these applications with USDA to avoid delays.

D. Other Issues

With respect to some of the environmental fate data requirements, the Agency is providing two sets of guideline numbers where needed; the first guideline numbers are those currently used by the Agency. The second guideline numbers, which are in parentheses, are the draft guidelines that have completed peer review and will be published as EPA final guidelines in the near future. Guideline numbers are provided in part 158 as information/guidance to applicants, and both guideline numbers are provided for each data requirement in this rule as an interim measure until the draft guidelines are finalized. In general, draft guidelines do not represent official Agency position until finalized. In either case, an applicant is not compelled to use the cited guidelines, but may choose to use an alternative methodology that will provide the information needed to complete the risk assessment. In such cases, applicants are encouraged to consult with EPA beforehand. Applicants may also consult with EPA about using an alternative methodology in draft guideline that has completed peer review.

As with the existing guidelines, draft guidelines are developed through a rigorous scientific process, including public comment and extensive peer review by the Scientific Advisory Panel, and many have been harmonized internationally. As such, they represent the Agency's recommended approach to developing data that will generally be likely to satisfy the Agency's data needs for risk assessment, and an applicant choosing to use the Agency guidelines may have greater confidence that the resulting data will adequately address our needs. This may also be the case for the draft guidelines referenced in parentheses in this rule. Once finalized, the Agency would correct the guideline references as appropriate.

E. Issues Identified that Apply to Both Biochemical and Microbial Pesticide Data Requirements.

The Agency did receive comments that applied to both biochemical and microbial pesticide data requirements. These issues are discussed as follows:

1. *Endangered species assessments—summary of comments.* Incidental to its proposed data requirements for conventional pesticides, EPA discussed the possibility of future data and information needs to develop and/or refine risk assessments for endangered species. EPA did not propose any data requirements specific to endangered species but described its current level of information and data usage. EPA requested comment on the value and utility of location and usage information, and on additional types of research that might yield greater refinement in risk assessments for endangered species. One commenter questioned whether the Agency's endangered species discussion in the preamble applies to biochemical and microbial pesticides only, or for conventional pesticides as well. Two commenters indicated the Agency should require toxicity data for surrogate species, and in particular reptile and amphibian data.

Summary of response to comments. EPA appreciates the responses it received from the commenter on this topic. As endangered species data requirements were not proposed, EPA has not responded to the comment as part of this final rule but will consider them in the context of its ongoing risk assessments. If EPA finds that it needs

to amend part 158 to normalize endangered species data requirements, the Agency will consider these comments in the development of a future proposed rule. The Agency has in the past and will continue to rely on the avian, fish, and invertebrate testing to indicate the potential toxicity for other non-target species.

2. *Product performance—summary of comments.* Without proposing changes to existing product performance data requirements (§ 158.640), the Agency augmented language for both biochemical and microbial pesticide data requirements for product performance with the regulatory text. One commenter indicated that the Agency requires data for uses other than for public health pests. Another comment was that EPA's language in the proposed preamble required clarification, indicating some products are not as efficacious as conventional pesticides. Another commenter indicated that the label should be supported by the efficacy data provided to the Agency.

Summary of response to comments. The Agency agrees that product performance data are required for all uses, but are only required to be submitted for review at the time of registration to support public health claims. These provisions, i.e. new §§ 158.2070 and 158.2160 for biochemical and microbial pesticides, respectively, are not replacing the data requirement tables in § 158.640, but only adding additional text for clarifying when submission of product performance data are typically necessary for biochemical and microbial pesticides. EPA is finalizing the language as proposed. EPA agrees with the commenters that the data must be submitted to support the label claims for registration of these public health pesticides.

EPA did not propose to change the existing data requirements and neither the existing data table nor the proposed regulating text would require the applicant to submit data comparing product efficacy. The Agency agrees with the commenter that there should not have been a distinction between biochemical and conventional pesticides in their efficacy, but that the efficacy varies between all pesticides and their products, and with respect to public health claims, the label should reflect the efficacy of the product.

3. *Addition of passerine species and appropriate nomenclature of test species within nontarget ecological effects data requirements—summary of comments.* The Agency proposed to add another possible test species for the avian acute oral toxicity study, the red-winged blackbird, a passerine species. EPA also proposed to continue to include the identification of other possible avian test species (bobwhite quail and mallards), and for fish species (rainbow trout and bluegill sunfish). One commenter requested that EPA revise the word ''songbird'' to read ''passerine.'' Another commenter indicated that the Agency should require historical control data on the red-winged blackbird for the past 5 years to develop a baseline for future testing on the species.

Summary of response to comments. The Agency recommends that if the registrant and the Agency deem it appropriate to test a passerine species, the registrant meet with the Agency before initiating the study to determine if the passerine species is appropriate based on the current scientific methodology and use pattern of the proposed registration. This test species may be required if the use pattern would result in higher exposure to this order of avian species.

In addition, after reviewing the comments submitted, the Agency decided to discontinue specific species designation for all non-target organisms. The test notes in the final rule only indicate upland game, waterfowl, or passerine species for avian concerns and coldwater and warmwater fish for fish concerns.

In summary, passerine species data are still conditionally required in the final rule for both biochemical and microbial pesticides. The individual test notes indicate when these data would be appropriate. With respect to developing test data over 5 years, EPA will consider such protocol concerns when it revises its test guidelines. The Agency is finalizing the proposed addition of the passerine species.

4. *Reptile/amphibian testing—summary of comments.* The Agency did not propose to require separate reptile testing. One commenter indicated that amphibian testing needed to be included in the data requirements for evaluating effects to non-target ecological species.

Summary of response to comments. The Agency has in the past and will continue to rely on avian, fish, and invertebrate testing to indicate the potential toxicity for other non-target species. Additional information will be required as needed.

5. *New studies providing little or no practical value— summary of comments.* EPA proposed to require a few newly codified studies, i.e., applicator/user exposure data to refine data requirements, i.e., mutagenicity data requirements. One commenter believed the Agency was using a ''check box'' approach to requiring data rather than regulatory need.

Summary of response to comments. The Agency reviewed the data typically submitted or determined to be necessary to support registration requests received over 7 years. EPA's proposed rule was based on that review. In some cases, EPA proposed new data requirements to codify existing practices and in other cases EPA proposed to amend test notes, for example, to clarify existing data requirements. EPA's analysis and proposed rule were based on decisions that the data and the modifications to the tables were necessary. Without more specific comment, EPA can not further respond to this comment.

6. *Providing adequate guidance when data are required/use pattern clarification—summary of comments.* When EPA revised the proposed rule, there was a concerted effort to provide informative test notes, which would clarify when data are required. However, a commenter did not provide specific data requirement issues but indicated the Agency was not clear on the expanded use patterns. This commenter also indicated that the waiver policy was unclear.

Summary of response to comments. As indicated earlier in this preamble, the Agency provided a section on ''Consultation with Applicants'' in the proposal which the commenter indicated was missing. It is a description of the pre-submission and post-submission process within the Agency encouraging the registrant to meet with the Agency as early as possible in the process in order to minimize delays and avoid unnecessary test costs. In most cases the numbers of use patterns were actually combined for transparency, i.e., food use and non-food use. The test notes provided for biochemical and microbial pesticides are more detailed than in the current regulation.

7. *There are no accepted protocols or guidelines for many data requirements—summary of comments.* One commenter indicated that the Agency published data requirements without supporting published guidelines. This commenter cited the environmental fate guidelines.

Summary of response to comments. The Agency proposed newly codified data data requirements guidelines for applicator/user exposure data; particle size, fiber length, and diameter distribution; product use information; and companion animal safety. There were also some new guideline numbers identified for environmental fate data

requirements. All of these data requirements have guidelines available. At the time of the publication of the proposed rule, the environmental fate guidelines were not finalized. The Agency did provide the existing guideline numbers that denoted the test methods at that time. The environmental fate guidelines (835 series) are anticipated to be published this year. In the interim, we have provided the current guideline numbers and the proposed guideline numbers in the data table. Once the final guidelines are published, the Agency will amend the Guideline references in the datea tables, as appropriate. As indicated previously, the guideline references are provided in part 158 as information/guidance to applicants. As with existing guidelines, an applicant is not compelled to use the cited draft guidelines, but may choose to use an alternative methodology that will provide the information needed to complete the risk assessment. (See Unit IV.D.).

8. *Codifying existing practice—summary of comments*. EPA made revisions, which included codified, newly codified, or new data requirements. One commenter stated that the Agency was mistaken in its distinction between ''new requirements'' and ''newly codified requirements.'' The commenter provided the example that the immunotoxicity study (guideline 885.3550), is a new requirement, as no such data requirement previously existed, regardless of whether the guideline was available.

Summary of response to comments. In developing this rule, the Agency received the data typically submitted or determined to be necessary to support registration requests received over the last 7 years. If the data had never been submitted to support registration, then the data requirement would be considered new. However, if the data had been submitted or required to support recent registrations, and were not listed in the 1984 promulgated rule, then the Agency would classify that data requirement as newly codified.

As for the specific example of immunotoxicity, these data are currently required and are being submitted to support existing registrations and is currently required in 40 CFR 158.690. EPA has been requiring or applicants have been submitting immunotoxicity data based on specific conditions, consistent with the 880.3550 guideline in more recent years, so the Agency classified this as a newly codified data requirement as a Tier II and Tier III data requirement.

9. *Animal welfare concerns—summary of comments*. The Agency received comment on individual studies suggesting alternative approaches to substitute for them. This comment was designed to recommend reducing the number of animals used in studies.

Summary of response to comments. All new studies required under today's rule for biochemical and microbial pesticides were all standard guideline studies that are also part of the data requirements for conventional pesticides. The EPA's Biopesticides and Pollution Prevention Division (BPPD) uses, where possible, the same studies that are used for conventional pesticides to allow for similar risk assessment procedures; to support the validated, time-tried, methods; to reduce the complexity of studies that testing laboratories must provide; to avoid excessive expenses for the typically small businesses that market these biopesticides; and to avoid instituting novel, non-validated procedures for a relatively small group of pesticides. As discussed in the preamble to the final rule for the data requirements for the registration of conventional pesticide products, Unit XIII, Discussion of Comments on Animal Welfare Concerns, the Agency is committed to avoiding unnecessary animal testing, while taking into consideration principles of sound science and the requirements of FIFRA to protect humans and the environment. The complete Unit XIII response to these comments also applies to microbial and biochemical pesticide data requirements. BPPD will consider test methods that do not use animals and is working with the rest of the Agency to move towards these goals. In addition, BPPD will continue to be available for pre and post submission meetings to allow an applicant to submit only those data needed to support that particular product.

V. Biochemical Pesticide Data Requirements (new Subpart U)

A. Definition of Biochemical (§ 158.2000)

Summary of proposed definition. EPA proposed to revise the definition of biochemical pesticide and received 11 comments on the definition. EPA's proposed definition was as follows:

A biochemical pesticide is a pesticide that:

(1) Is a naturally-occurring substance or structurally similar and functionally identical to a naturally-occurring substance;

(2) Has a history of exposure to humans and the environment demonstrating minimal toxicity, or in the case of a synthetically derived biochemical pesticide, is equivalent to a naturally-occurring substance that has such a history; and

(3) Has a non-toxic mode of action to the target pest(s).

As explained in the proposed rule, EPA proposed to clarify the ''naturally-occurring'' clause of the prior definition by adding a criterion that the pesticide have a history of exposure demonstrating minimal toxicity. EPA believes that if a pesticide is present in the environment in sufficient quantities, there would be a good chance that any innate toxicity would already have been recognized due to observed effects on humans or representative non-target organisms. A pesticide that meets this, as well as other specified criteria, is more appropriate for the tiering data structure that EPA uses for biochemicals than a pesticide that does not have such history of exposure or a pesticide that has a history of exposure in which such exposure has revealed toxicity concerns.

The tiering structure can be beneficial if data submitted to satisfy the early tiers allow EPA to determine that the pesticide does not cause unreasonable adverse effects on the environment. This determination at the early tiered stage can reduce the total amount of data generated to satisfy registration as compared to pesticides that do not meet the biochemical definition.

If the pesticide is naturally occurring but otherwise does not clearly meet the biochemical definition, EPA is not likely to use the biochemical pesticides tiering structure for testing; instead, EPA would likely apply the data requirements for conventional pesticides for an adequate assessment of the risks from the proposed use of such a pesticide. However, note that in some limited cases, EPA may assess a pesticide under the biochemical pesticide tiering structure even though the pesticide is not a biochemical pesticide. Specifically, EPA added paragraph (c) to 40 CFR 158.2000 to allow some limited use of the biochemical tiering structure for pesticides not clearly meeting the biochemical definition but for which only minimal additional data would be necessary. Please refer to the preamble of the proposed rule for further explanation.

EPA also proposed that to meet the definition of ''biochemical'' the pesticide must have a non-toxic mode of action to the target pest. EPA proposed this criterion to conform to the original intent for defining biochemical, that the term describes a pesticide that is ''not the result of target organism

toxification.'' As EPA explained in the proposed rule, the natural occurrence of a pesticide does not necessarily mean that it has a non-toxic mode of action to the target pest. An example might be pyrethrins, which are naturally-occurring toxins that occur in chrysanthemum plants. See the proposed preamble and regulatory text for a more complete discussion of the proposed definition.

Summary of comments. Eleven commenters identified concerns for the revised definition of a biochemical pesticide. In particular, the commenters believed in most cases that the proposed definition was more restrictive than the current definition. Of particular concern was the addition of the criterion that a biochemical pesticide must have a non-toxic mode of action. A suggestion was made that the definition be reworded to include the phrase ''mitigating mode of action'' as in ''Has a non-toxic or mitigating mode of action to the target pest.'' The commenters suggested that this would allow inclusion of a physical mode of action. Another commenter indicated that the new definition would not allow pesticides that cause suffocation.

In addition, most of these commenters believed that the proposed definition, which included the language ''Has a history of exposure ... demonstrating minimal toxicity'' and ''Has a non-toxic mode of action to the target pest(s),'' would also make the criteria for defining a biochemical more restrictive, possibly disallowing insect pheromones, juvenile growth hormones, and most plant and animal extracts to be classified as biochemical pesticides. One commenter indicated that the definition should include both natural occurrence and non-toxic mode of action as part of the definition for low risk.

One commenter generally supported the new definition but suggested that EPA also consider setting some limits to exposure since some naturally-occurring substances may be much more toxic if their use patterns result in high exposure levels. Another commenter expressed a concern that saponins would not be considered as biochemical pesticides under the proposed definition.

Summary of response to comments. EPA disagrees with the general comment that the proposed definition is more restrictive than EPA's operation under the prior definition. EPA reviewed all 180 biochemical pesticide registrations since 1948 and determined that only two pesticides currently evaluated as biochemicals would not fit the definition of a biochemical pesticide as proposed. Though these two have been evaluated as biochemical pesticides, the data required were equivalent to what was required to support conventional pesticides. Based on this survey of biochemical pesticides, the Agency expects that there will be no significant differences in the scope of pesticides EPA evaluated as biochemical pesticides prior to the effect of this rule and the scope of those EPA evaluates as biochemical pesticides under this new definition. This applies equally to the scope of insect pheromones, juvenile growth hormones, and plant and animal extracts evaluated under the prior definition and that would be evaluated under the new definition.

The Agency would like to clarify that the provision that a biochemical pesticide is a naturally-occurring substance as well as a compound that is structurally-similar and functionally identical to a naturally-occurring substance, also applies to pheromones. The pheromone definition in today's rule has been modified to make this explicit. In addition, the straight chain lepidopteran pheromone definition will be slightly corrected to correspond with the internationally-recognized definition as used in the tolerance exemption at § 180.1153. The word ''double'' is added to ''three bonds'' to read as ''three double bonds''. The Agency is also replacing ''designated by'' with ''consisting of'' in order to make the definition more transparent. The revised definition will read: '' A straight chain lepidopteran pheromone is a lepidopteran pheromone consisting of an unbranched aliphatic chain (between 9 and 18 carbons) ending in an alcohol, aldehyde, or acetate functional group and containing up to three double bonds in the aliphatic backbone.''

EPA does not believe that the recommended inclusion of a ''mitigating mode of action'' is needed. First, the Agency interprets the phrase ''non-toxic mode of action'' to include such pest control mechanisms as attraction, repellency (including irritants), growth regulation/development changes, induction of systemic acquired resistance, and physical modes of action such as desiccation, coatings, or smothering, e.g., by naturally-occurring oils. The Agency recognizes that physical modes of action, e.g. suffocation, may be lethal to the target pest, but since they do not involve toxic chemical/poison-induced effects in the context of this program, they are considered to be a non-toxic mode of action. This is how EPA has interpreted ''unique modes of action'' as used in the prior definition. EPA notes that the Biochemical Classification Committee (consisting of EPA scientists) was formed in 1995 and has been responsible for determining whether a proposed pesticide is eligible to be evaluated as a biochemical pesticide and has consistently applied this interpretation of the existing definition. EPA proposed to include the phrase ''non-toxic mode of action'' instead of the phrase ''unique modes of action'' because EPA believes the former and proposed phrase better/more accurately describes our historical approach for defining ''biochemical pesticides,'' and intended no change in the scope of the term historically applied. In addition, to the fact that the proposed phrase captures commenter's concern, commenters did not adequately define the word ''mitigate'' as it would apply to pesticidal modes of action. Thus, EPA believes using a reference to mitigating mode of action is unnecessary and may only add confusion in implementation.

Finally, for practical reasons, EPA does not believe that setting a limit based on the amount of existing exposure as compared to that contemplated by the proposed use pattern is necessary as recommended by the commenter. Implementation of this concept would be very difficult since the classification of the product would depend on the uses proposed with the initial application, which often change subsequent to the risk assessment process. It would be impractical to have to reclassify an active ingredient from a biochemical pesticide to a chemical pesticide based on use patterns. In practice, EPA will initially classify a pesticide as a biochemical pesticide, but will apply additional data requirements, up to and including those for conventional pesticides, to adequately assess the risk. In no case will an initial determination of biochemical status preclude the Agency from requiring data not specifically included in subpart U if necessary.

Another commenter stated the belief that saponins (naturally-occurring glycosides within plants) should be considered biochemical pesticides and that the new definition precludes such a finding. The Agency believes not all saponins would necessarily be registered as biochemical pesticides. Each one has to be evaluated carefully. This illustrates the importance of having sufficient exposure of naturally occurring chemicals to determine if any unreasonable toxicity is observed. Some saponins are known to be poisonous to people if swallowed, and some saponins can cause severe dermal irritation, and others may not be absorbed at low levels in the diet. Many saponins are

especially toxic to fish. Any changes in the application or scope of the definition would be addressed through notice and comment rulemaking.

B. Individual Biochemical Data Requirements

As noted in Unit II, 20 commenters responded to the proposal. The following sections are responses to comments raised:

1. *TEP and EP testing versus TGAI testing—summary of comments.* Many commenters raised concerns about the variability in test material used for testing typical end-use product (TEP) or end-use product (EP) or technical grade active ingredient (TGAI) and whether to require the use of the same test material as that required for conventional pesticide data requirements.

Summary of response to comments. The Agency compared the test materials required for conventional pesticides and determined that requiring the same testing material (i.e., TEP, EP, or TGAI) for biochemical pesticides to be used is appropriate in some circumstances. However, upon review EPA determined that there are instances where the types of testing material should not be the same. This difference is because there usually is no ''typical end-use product'' for biochemical pesticides. Most biochemical pesticide EPs are difficult to replicate. Therefore, TGAI is being required for many instances in which the conventional pesticide regulations require TEP or EP. EPA has made revisions where appropriate in the final rule.

2. *Particle size, fiber length, and diameter distribution—summary of comments.* EPA proposed to add a new requirement for particle size, fiber length and diameter distribution, due to spray drift concerns. This new data requirement is consistent with conventional pesticides data requirements with the exception of the test material to be used; the Agency is requiring TGAI data for biochemical pesticides given the difficulties of producing a replicated TEP or EP. One commenter questioned the need for this data requirement.

Summary of response to comments. As indicated in the proposed preamble, the data from these studies are needed to complete the environmental fate assessment to estimate the potential pesticide drift to non-target areas. The Agency should have included in the justification that these data are also useful for determining the potential for acute inhalation toxicity to human health and the environment. The Agency is being consistent with its assessment, since it reached the same conclusion in response to comments for conventional pesticides.

Specifically, particle size is generally expressed as mean mass aerodynamic diameter (MMAD), which is a practical way to account for the different possible shapes such as fibers, clumps, etc. The particle size distribution is used as a set of criteria to determine respirability for purposes of establishing the need and/or the acceptability of inhalation toxicity studies (acute and, if the main route of exposure is inhalation, subchronic toxicity studies), and again, these data can also be used for spray drift evaluation.

3. *Immunotoxicity data requirements—summary of comment.* EPA proposed to move the immune response requirements from Tier I and Tier II to Tier II and Tier III and added two test notes indicating when the data are required. One commenter stated immunotoxicity tier II data are difficult to interpret. Another commenter believed that this should be identified as a ''new requirement'' rather than as ''codifying an existing data requirement.''

Summary of response to comments. EPA is finalizing the amendments as proposed. The name of this study has changed, but the ''immunotoxicity testing'' data requirement is identical to the original ''immune response'' testing. To provide more guidance on when the studies are actually required, the final rule includes two test notes. As a result the data will be conditionally required as Tier II and Tier III data requirements.

4. *Companion animal safety data requirement—summary of comments.* The Agency proposed to add companion animal safety data requirements based on past experiences indicating the data were needed for a risk assessment. One commenter requested that the Agency define companion animal species and surrogate species to be tested.

Summary of response to comments. The Agency did not define the species to be tested in a test note since it relies on the Pesticide Assessment Guidelines (870.7200) to identify various appropriate species, which traditionally have been required to support flea and tick treatments for pets (i.e., dogs and cats). EPA has not changed the final rule as a result of the comments received, except we provided more specific guidance on test substance, (i.e., TGAI instead of choice).

5. *Applicator/user exposure data requirements—summary of comments.* EPA proposed to add data requirements to address applicator/user exposure. EPA proposed a series of data requirements within this category to be tested on TGAI. EPA proposed to require background information as part of the applicator/user exposure monitoring data requirements. One commenter requested that EPA clarify its expectation that applicator exposure data requirements are primarily intended to generate data to support evaluation of insect repellents. One commenter indicated these data were not needed for all use patterns.

Summary of response to comments. EPA has decided to not finalize its proposal to require background information for the applicator/user exposure monitoring test (guideline 875.1000) since the same data are already required to be submitted under the various other data requirements, i.e., dermal outdoor exposure, dermal indoor exposure, etc. (guidelines 875.1100 through 875.1500). EPA has made no further revisions to any other proposals on this series of data requirements.

The final rule conditionally requires the data to be submitted when the use of the biochemical pesticide could result in exposure levels that might exceed those historically encountered, and if so, other additional information would be necessary (e.g., directions for use, application rates, or other exposure information) to determine potential risks.

Thus, in general, when the use of any biochemical pesticide can be expected to exceed historical exposure to humans or the environment, the Agency would require exposure information to assure minimal risk associated with that use. Although it is true that insect repellents are typically applied at levels that can be expected to exceed those historically encountered, many other pesticide use patterns may also result in exposure levels exceeding these historically encountered use patterns. Again, these data requirements are not limited to insect repellents.

6. *Product use information data requirement—summary and Response to comments.* The Agency proposed to require product use information (guideline 875.1700). EPA received comments that this information was not necessary because this same basic use information is available as part of the registration or experimental use permit application. EPA agrees with the commenters and has removed this requirement from the final rule.

7. *Mutagenicity data requirements—summary of comments* . EPA proposed to provide more guidance for mutagenicity testing by specifying what kinds of studies would be required at Tier I and Tier II. This information was previously described in the 1982 published Subdivision M guidelines that indicated that Tier I would be *in*

vitro testing and Tier II would be *in vivo* testing. EPA proposed to add two of the three *in vitro* studies to the table for mutagenicity Tier I testing, and the two *in vivo* studies were added to the data table for mutagenicity Tier II testing. Three comments were received. One commenter mistakenly thought we had an *in vivo* study at Tier I but did urge us to use non-animal methods at Tier I referencing an EPA tiered testing proposal by Dearfield, et al. (Ref. 1). Another commenter recommended that we include an *in vitro* chromosome aberration test at Tier I to better address chromosomal endpoints. The third commenter was concerned that an *in vivo* chromosomal aberration or clastogenicity study was moved to Tier II and recommended an *in vivo* test be included at Tier I.

Summary of response to comments. Although the commenters were not totally accurate about the presence of *in vivo* chromosome studies being at the Tier I level (they were not actually at Tier I in the original nor the proposed guidelines, although the original table was not definitive by itself), the Agency believes the recommendation of the second commenter will address all these concerns. Therefore, the *in vitro* mammalian chromosome aberration study, guideline 870.5375, will be included in the Tier I Mutagenicity Testing battery of acceptable tests to better address chromosomal endpoints. This will correspond better to the mutagenicity testing description for the conventional pesticide data requirements, and will provide a more complete Tier I assessment.

8. *Primary eye, dermal and skin sensitization data requirements—summary of comments*. The Agency proposed to require both TGAI and EP testing, for EPs and TGAI and MP testing for MPs. The prior rule did not require TGAI testing. One commenter did not understand why the Agency expanded the data requirements to add the TGAI as the requisite test material.

Summary of response to comments. The Agency indicated in the preamble of the proposed rule that inert ingredients as well as active ingredients could cause adverse effects not necessarily noted by TGAI alone. Therefore, testing on both TGAI and EP or MP is necessary to determine the safety of the pesticide for these endpoints. As a result, EPA is finalizing both TGAI and EP or MP testing.

9. *Limit testing—summary and response to comments*. The Agency did not propose any revisions on limit testing for avian acute toxicity testing, but one commenter indicated support for the new methods in reducing the number of test animals used for conducting the study. The Agency minimizes testing as much as possible and often encourages the use of maximum hazard testing using only the high dose level, anticipating that no significant effects will be seen.

10. *Sediment/soil adsorption/desorption data—summary of comments*. EPA proposed a revision in the sediment toxicity data requirement in Tier I from ''not required'' to ''conditionally required'' for greenhouse use. The Agency also revised the test note. One commenter requested that the Agency clarify why these data would be required for greenhouse use.

Summary of response to comments. The Agency indicated the data may be conditionally required for greenhouse use to determine if the parent compound remains bound while grown in greenhouse conditions and is available for uptake in the plant. Likewise, it may need to be determined how rapidly the parent degrades in the growing medium, into what forms it may degrade, and whether the degradates are bound in the growing medium or taken up by the plant.

VI. Microbial Pesticides Data Requirements (Subpart V)

A. Definition of Microbial Pesticide

1. *Summary of proposal*. The Agency proposed to revise the definition of a microbial pesticide as follows:

Microbial pesticide means a microorganism intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, that:

i. Is a eucaryotic microorganism including, but not limited to, protozoa, algae, and fungi.

ii. Is a procaryotic microorganism, including, but not limited to bacteria.

iii. Is an autonomous replicating microscopic element, including, but not limited to, viruses.

EPA proposed this revision to 40 CFR 158.65 to better conform to the description of the class of non-exempt biological control agents in 152.20(a)(3), and to use a structure for defining microbial pesticide similar to that at 40 CFR 172.43. EPA explained that the proposed revisions are not intended to change, and in EPA's view does not change, the scope of the previous regulatory definitions and descriptions of microbial pesticides at §§ 158.65, 152.20(a)(3), or § 172.43. EPA also proposed changes to § 172.43 so that the definition would conform to the newly proposed definition of microbial pesticide, but did not intend to change the scope of that provision. These revisions are intended to include all microorganisms as microbial pesticides based on the currently accepted taxonomic nomenclature as of the date of publication of this rule.

EPA also proposed to refine the current regulatory text relating to the need to separately register new species or isolates and to separate that provision from the definition section to avoid confusion on the definition of microbial pesticide.

In the preamble to the proposed rule, EPA noted that microorganisms are known to produce many chemical pesticidal substances. These pesticidal substances, when distributed or sold independently of the microorganism, are considered to be biochemical pesticides, conventional chemical pesticides, or antimicrobial pesticides, depending on the mode of action and the use. The microorganism would then usually be considered part of the manufacturing process. For example, streptomycin, an antibiotic produced by a bacterium, *Streptomyces griseus*, is registered as a conventional chemical fungicide.

See Unit VIII.A. of the preamble to the proposed rule (71 FR 12072, March 8, 2006) for a more complete discussion of the changes proposed for the definition of microbial pesticide.

2. *Summary of comments*. The Agency received a total of five comments on the proposed definition of a microbial pesticide. Some commenters expressed concerns that the microbial pesticide definition might not adequately describe all microbial pesticides. One recommended including bacteriophages. Another commenter asked if nematodes (which may have symbiotic microorganisms living in them) are covered by the definition. Several commenters generally agreed with the provision in EPA's prior definition that specifies that each new isolate of a microorganism should be evaluated as a new strain. However, one of these commenters was concerned that, particularly for baculoviruses, there may be a few cases in which some microorganisms could be evaluated at a family or genus level for some test data requirements such as for human health toxicity/pathogenicity testing, even if each microorganism is a different strain, while in other cases an isolate might not ''always meet the definition for a strain.'' The commenter is concerned that maintaining the provision from the prior definition might require more testing than is necessary.

3. *Summary of response to comments*. To address the concerns about the adequacy of the microbial pesticide definition, the Agency added the

procaryotic class Archaea as an example to the class Bacteria since this is another division of procaryotes that is on the level of bacteria, at least according to some taxonomic schemes. Although this does not change the scope of the definition as implemented and proposed by EPA, this will ensure that this part of the definition is much clearer by explicitly including that entire group of microscopic living organisms. EPA also considered including bacteriophages in the ''autonomous replicating'' class under the revised microbial definition, which, as proposed, only included ''viruses'' as an example. However, EPA decided that it would not be appropriate from a taxonomic viewpoint. Bacteriophages are viruses that infect prokaryotes. Including a subcategory of viruses, i.e. the bacteriophages, as well as ''viruses'' would tend to confuse the language in the regulation and adds nothing to the scope of the definition. In addition, the original language in the preamble to the proposed rule was not quite accurate in describing viruses, i.e. ''the autonomous replicating language is intended to exclude pesticide components of microscopic cells that are not able to replicate as separate entities, such as genetic constructs.'' Because viruses replicate utilizing some components of a host cell, the ''autonomous replicating'' language would not accurately capture the relevant biology or the viruses we have registered. Therefore, EPA is changing the phrase ''autonomous replicating microscopic element'' to ''parasitically replicating microscopic element'' in part 3 of the definition. Under this definition, genetic constructs inserted intentionally into a microbial agent to provide pesticidal traits are not included because they do not parasitically replicate; however, the genetically altered microbial agent itself would be regulated as a microbial pesticide. We also changed the language in the definition from ''microorganism'' to ''microbial agent.'' This better agrees with the language in 40 CFR 152.20(a) which exempts ''Certain biological control agents'' from regulation under FIFRA.

In response to the comment concerning nematodes, EPA will offer some general guidance on nematodes here. Nematodes have been identified as a macroscopic biocontrol organism that is exempt from regulation in accordance with § 152.20(a) on the basis that another Federal regulatory agency is adequately regulating them. However, EPA is aware that the insecticidal activity of some commercially marketed nematodes is due to insecticidal microorganisms that live in a symbiotic relationship inside the nematode gut, (e.g., *Xenorhabdus* spp. and *Photorhabdus* spp., entomopathogenic bacteria associated with nematodes of the families Steinernematidae and Heterorhabditidae). In response to previous inquiries from researchers working with these biocontrol organisms, EPA determined that these symbiotic bacteria are considered a part of the mode of action of the exempt nematodes and are therefore covered by the exemption in § 152.20. Many exempt biocontrol organisms have naturally-occurring microbial flora living within them. However, if these bacteria were isolated, grown separately, and reinoculated into the nematodes as a delivery system, EPA has determined that the exemption does not apply and, thus, a registration would be required (USEPA, 1990)(Ref. 2). Likewise, genetic engineering of the symbiotic insecticidal microorganisms would also require them to be regulated as microbial pesticides.

EPA carefully considered the comment raising the issue of whether an isolate occasionally could be evaluated to satisfy a subset of data requirements at a higher taxonomic level than strain level and whether an isolate might sometimes be included as part of a very similar strain. EPA believes the proposed microbial pesticide definition applicability provision is sufficiently flexible to ensure adequate consideration and data on new isolates, while allowing use of existing data to support registration if similar to an existing strain that is already registered. The wording of the provision relating to applicability of the microbial data requirements reads, ''each new isolate of a microbial pesticide is treated as a new strain and must be registered independently of any similar registered microbial pesticide strain and supported by data required in this subpart.'' This wording does not preclude the possibility of using data from another isolate to support the assessment if it can be shown that the two isolates are sufficiently closely related. In this way it ensures that each isolate will be independently considered for registration purposes. The differences in taxonomy between different microorganism classifications, particularly for baculoviruses, would make any attempt to further clarify this provision very complex and potentially confusing as the systematic nomenclature of these organisms change over time. The Agency intends to use its best scientific judgment in each instance to determine if one isolate is sufficiently closely related to another isolate to allow sharing of data or waiving of data requirements.

B. Amendment of Parts 172 and 152

The definition of a microbial pesticide has been revised as follows:

(1) ''Microbial agent'' replaces ''microorganism;''

(2) ''Eubacteria and Archaebacteria'' replaces bacteria; and lastly,

(3) ''parasitically'' replaces ''autonomous''.

These revisions were incorporated and were also replaced in other sections of 40 CFR. To better coordinate the regulations, EPA proposed to replace the definition for a microbial pesticide at 40 CFR 172.43 with an updated definition. In addition, the Agency has also identified § 152.403 as another location in 40 CFR where the definition of a microbial pesticide is cross-referenced. Accordingly, this provision also needs to be corrected to reference the new § 158.2000 and § 158.2100. EPA has also proposed to delete § 158.65 in the proposed rule for conventional pesticides. EPA received no comments on this change to parts 152 and 172.

C. Individual Issues Submitted on Microbial Pesticides Data Requirements

A number of issues were identified that were focused on the guidelines, i.e., number of applications, maximum dosing of pesticides during testing, etc. These issues are outside the scope of this rule and EPA will consider them in the context of guideline development.

The following issues were identified for specific data requirements for microbial pesticides. The Agency responds to these comments in this preamble. When appropriate, the Agency has revised the regulatory text.

1. *EP versus TGAI testing for data requirements—summary of comments.* EPA proposed to require testing on TGAI for various data requirements instead of MP, or TEP or vice versa.

Summary of response to comments. One commenter indicated that the EP should be tested instead of the TGAI for physical and chemical properties data requirements. The Agency agrees with the commenter and understands that for meeting the chemical and physical properties data requirements, some product analyses should be done on the product proposed for registration, either an MP or EP. However, some product analyses should be done with TGAI. EPA proposed no change to the test substance currently being required. Rather, EPA simply broke out the various tests that make up the body of the product analyses data. Therefore, the data being required are on TGAI or

EP just as often as before, but with the revised table, it is more clear when TGAI or TGAI and MP/EP data are required for each specific test is listed (odor, color, etc.).

2. *Analytical methods data requirement—summary of comments.* EPA proposed to move the data requirement for analytical methods from the Product Analysis Data Table to the Residue Data Table. One commenter indicated that the analytical method should be required as a chemical and physical properties data requirement.

Summary of response to comments. The Agency is continuing to require these data but believes it more appropriate to require the data as a residue chemistry data requirement where it primarily would be needed if the microorganism could produce residues of concern, such as toxins. For general analysis of less problematic microorganisms, the new requirement for deposition of a sample to a culture collection where it would be available for use with standard microbial analytical comparison methods is sufficient to allow post registration analysis. This is to ensure that the product being registered is what was tested and evaluated.

3. *Quality assurance/quality control issue—summary of comments.* EPA did not propose a revision in the manufacturing process data requirement. One commenter indicated that a detailed description of quality assurance/quality control (QA/QC) program as part of the manufacturing/production process should be clearly specified as a data requirement.

Summary of response to comments. The Agency agrees with the commenter that the QA/QC program is especially critical for microbial agents. The existing regulations address these concerns by requiring confirmation that QA/QC is an essential part of the manufacturing process description as well as the discussion on formation of unintentional products and impurities.

4. *Acute injection toxicity/pathogenicity data requirement—summary of comments.* EPA proposed to eliminate the intracerebral administration and rely on the intravenous or intraperitoneal administration for the acute injection toxicity/pathogenicity study. One commenter agreed that elimination of the intracerebral injection assay was reasonable, but indicated it was unclear why the data were not required to support registration of viruses. Another commenter indicated that the pathogenicity/toxicity study via the intravenous (i.v.) or subcutaneous (s.c.) route should not be required for viruses.

Summary of response to comments. The requirement for the intracerebral injection assay is eliminated since it is difficult to accomplish and has questionable utility for detecting effects given the high likelihood of adverse effects from the method itself.

The Agency is not requiring pathogenicity/toxicity data for viral agents based on the difficulty of establishing the clearance endpoint for viruses. In these tests, the individual organ macerates must be tested for infectivity by a bioassay in the target pest. The Agency finds that the results from the cell culture assays are more sensitive and present a greater potential for the virus to express infectivity and cytopathic effects. The final rule is the same as the proposed rule for this data requirement.

5. *Hypersensitivity incidents data requirement—summary of comments.* EPA proposed to revise the hypersensitive incident data requirement from ''conditionally required'' (CR) to ''required'' (R) to better describe the occurrence and when it is actually required. One commenter requested more guidance on when to report hypersensitivity incidents to the Agency, and indicated that the elimination of the sensitization study could not be supported.

Summary of response to comments. For clarification, EPA did not require a ''sensitization'' study for microbial pesticides in either the original or the proposed rule. The original rule required a hypersensitivity study and reporting of hypersensitivity incidents. The proposed rule proposed to remove the requirement for hypersensitivity studies but continue the requirement for reporting of data for hypersensitivity incidents. The reference was changed from CR to R for the hypersensitivity reporting to better indicate that the data are required with no exceptions for all use patterns, if any hypersensitivity incidents occur. The Agency expects that many microbial pesticides may be respiratory sensitizers, although there are no consistently reliable laboratory tests available for this endpoint. Therefore, in general, the Agency requires protective equipment to lessen exposure to microbial agents for applicators with a high likelihood of repeated exposure. The requirement for reporting of human hypersensitivity incidents is to track microorganisms that may require more protective measures than those generally followed. The Agency agrees with the comment that more guidance on when to report would be helpful and is adding to the footnote the following language from the ''when required'' section of the 1982 Subdivision M Guideline 152.37 referenced in the original data requirements for Hypersensitivity Incidents and as slightly revised in the 1989 Guidelines (152A-15): ''3. Hypersensitivity incidents, including immediate-type and delayed-type reactions, of humans or domestic animals that occur during the testing or production of the TGAI, MP, or EP, or are otherwise known to the applicant, must be reported if they occur.'' Additional guidance is provided by 40 CFR 152.50(f)(3), which specifies that an applicant must include in a registration application any factual information of which he is aware regarding unreasonable adverse effects of the pesticide on humans or the environment.

6. *Mutagenicity data requirements—summary of comments.* EPA proposed to no longer require mutagenicity data on the whole microorganism. One commenter disagreed with the Agency, and indicated that mutagenicity data should be required on the whole organism. The commenter indicated that, especially for a new microorganism, basic genotoxicity studies (*in vitro*) might indicate the presence of metabolites/toxins with mutagenic properties that otherwise would not have been detected. Thus, basic studies should be kept on the list, at least as conditionally required. This same commenter indicated a concern for immunocompromised people and the possible production of antibiotic substances or the spread of antibiotic resistance to human or animal pathogens that could occur.

Summary of response to comments. The Agency's experience with standard mutagenicity testing shows that it is not appropriate for whole microorganisms or often even for slurries. These mixtures often interfere with the results from the tests. If toxins that may be mutagenic are identified as part of the Tier I testing and/or are known to be present in taxonomically related microorganisms, they can be tested as part of the acute testing requirements at Tier II. The Agency's approach is to require testing that identifies whether known problematic toxins are present in that isolate. The significant part of a microbial assessment comes from the taxonomic description of the organism that is used to search the literature to identify any problematic toxins that warrant individual assessment.

EPA evaluates potential effects on immunocompromised people as part of the assessment process of a microbial pesticide, considering its relationship to known human pathogens, the test data, and the potential exposure from its use.

EPA agrees most naturally-occurring microorganisms have evolved some sort of antibiotic mechanisms to help them survive in the presence of other microorganisms. However, rarely would significant levels of an antibiotic be produced from uses of microbial pesticides that might produce a disease problem. If a microorganism that could produce significant levels of a clinically important antibiotic was proposed for a pesticidal use that might affect medicinal uses of that antibiotic, it would be handled on a case-by-case basis by knowledgeable EPA scientists. After careful consideration, the mutagenicity data requirements remain the same in the final rule as in the proposed rule.

7. *Infectivity/pathogenicity data requirement—summary of comments*. EPA proposed to conditionally require infectivity/pathogencity data as a Tier III data requirement. One commenter was opposed to the new data requirement for infectivity/pathogenicity.

Summary of response to comments. The Agency understands the concerns of conditionally requiring higher tiers of mammalian testing. EPA believes, however, that there may be instances in which a microbial pesticide is intended for control of a mammalian pest, and such tests may be needed to assure the safety for non-target mammalian species. This same commenter also strongly opposed the use of primates for this testing and oncogencity/carcinogenicity testing. The Agency doubts a registrant would go to the extremes of performing a primate study to try to support registration of a mammalian pathogen. The data requirements in the final rule remain the same as in the proposed rule.

8. *TEP testing for non-target ecological effects*. EPA proposed some revisions to provide the option for testing either the TEP or TGAI for non-target ecological effects. One commenter recommended TEP or EP testing for all products with potential aquatic or terrestrial non-target exposure.

Summary of response to comments: The Agency agrees with the commenter that EP testing should be required when significant non-target exposure is to be expected. Therefore, the Agency has added a new test note to require EP or TEP testing when the EP may contain other ingredients that may be toxic to non-target organisms. The Agency has added TEP to freshwater fish/pathogenicity and invertebrate/pathogenicity testing data requirements.

9. *Honeybee toxicity testing—summary of comments*. The Agency proposed one test note revision to the honeybee toxicity study for indoor use and Experimental Use Permits (EUPs). One commenter indicated the data requirement refers mainly to oral effects, and that the Agency should consider dermal/topical effects as well, suggesting it would improve harmonization with other data requirements, if the dermal/topical acute toxicity test was also included as an option.

Summary of response to comments. The data table does not specify the route of exposure for the honeybee toxicity testing. The route of exposure for this test is addressed in its OPPTS Microbial Pesticide Harmonized Test Guideline, 885.4380, which is available on the EPA's web site at *http://www.epa.gov/opptsfrs/home/guidelin.htm* and which is referenced in the data table. This guideline recommends using an oral dose if the microbial pesticide is expected to act by a dietary route of exposure or consists of particles of such a size that they might be carried back to the hive like pollen. However, we recognize that most honeybee oral dosing methods would likely also result in some dermal exposure. Furthermore, the guideline does not rule out using a conventional dermal/topical exposure as an option if the mode of action of the microbial pesticide indicates that it would be more appropriate.

10. *Environmental expression data requirements—summary of comments* . EPA did not propose to change when the Tier II environmental fate, i.e. expression, testing would be triggered by Tier I acute toxicity testing. However, one commenter indicated that the data requirements on environmental expression are very limited. The commenter recommended, to improve harmonization with the European Union (EU), that EPA should add substantial guidance to the test notes 9, 10, and 11 (or references to relevant literature) on what environmental fate data should be collected, presented, and submitted, in case a Tier II evaluation is required.

Response to comments: The guidance that the commenter recommends be added to the regulatory text is found in our guidelines, specifically guidelines 885.5200, 885.5300, and 85.5400, which are referenced in the data tables. Historically, EPA has provided detailed guidance on a case-by-case basis. The EU and the US have agreed to use the same microbial pesticide testing guidelines, so these would be the best place to address this concern. The EPA will continue to address EU harmonization through the OECD Biopesticides Steering Group.

11. *Reduction in number of test animals used for testing—summary of comments*. EPA did not propose any revisions to the test guidelines within this proposed rule. Two commenters supported the development of new methods to reduce the number of animals used for pesticide testing while maintaining the diversity of test species.

Summary of response to comments. The revision of the guidelines is a separate activity. The OPPTS Microbial Test Guidelines already recommends a single high dose for the initial test using a minimal number of test animals and provides for enough replicates with sufficient statistical power. Specifically, high dose tests (basically high dose screening tests using a low number of test animals and replicates) by their very nature provide sufficient statistical power to avoid type II (beta) errors.

12. *Non-target organisms and environmental fate testing*. Both the original and the proposed testing for non-target effects and environmental fate are organized into tiers, with the effects testing at the Tier I level and the environmental exposure testing at the Tier II level. One commenter requested the Agency conduct the fate and exposure studies at Tier I and put the non-target studies using living test organisms at Tier II and higher. The commenter suggested limiting Tier I data requirements to strictly non-vertebrate studies, e.g., environmental expression studies, and substituting some *in vitro* studies such as a fish egg and a protozoan toxicity study for *in vivo* fish studies.

Summary of response to comments. The Agency does not believe this suggestion would allow an adequate assessment to be done. The basis for the microbial pesticide ecological risk assessment is to first determine if there are any significant adverse effects with a maximum hazard approach. The maximum hazard approach to testing uses one dosing group of animals (mice, rats, birds, etc) tested at a very high dosage of the test substance on the presumption that no adverse effects will be seen. If no significant adverse effects are seen at the maximum dosage, exposure data are not required. The Agency minimizes testing as much as possible and often encourages the use of maximum hazard testing when no significant effects are expected to be seen at that level. This is especially pertinent to microbial pesticides which rarely show any significant effects in the high dose and it has dramatically reduced the number of test animals used and also reduced the cost of the testing.

Definitive environmental expression studies are very difficult to perform for naturally-occurring microorganisms that can increase in numbers in the

environment under varying conditions, in contrast to chemical pesticides for which environment fate studies are designed to determine only how fast they degrade and/or are transported. An environmental expression study on a microorganism rarely, if ever, would be sufficiently conclusive to allow bypassing the easier-to-perform *in vivo* effects studies. However, a careful preregistration analysis of the proposed uses and known environmental characteristics of the specific microorganism usually allows for some data waivers of the Tier I studies to be granted. The proposal for substituting the two *in vitro* studies to replace a study on fish is worth further study as an alternative to the standard fish study, but it is not clear at this time if it would accurately detect the potential for microbial infectivity and pathogenicity.

13. *Addition of other test species—summary of comments.* One commenter suggested adding testing of freshwater algae, terrestrial micro-organisms, and the active micro-organisms in sewage treatment plants, as these may be exposed as well to general use, biochemical, or microbial pesticides.

Summary of response to comments. Current knowledge indicates that the inherent variability in physical and biological environments, the adaptability of microbes, and redundant degradation pathways in microbial and mesofaunal communities, leads to no significant or lasting impact on ecosystems from introduction of pesticidal microbes even where changes to these populations can be meaningfully tracked. (Refs. 3 and 4). Moreover, microbial ecosystems are highly variable. Any transitory, limited, effects from the introduction of a typical microbial pesticide into the environment would be very difficult to detect and analyze. The active microorganisms in sewage treatment plants are also part of a complex specialized microbial community that is very competitive and is also very unlikely to be influenced by any one given microbial pesticide.

VII. Experimental Use Permits

In promulgating its final rule on conventional pesticides, EPA segregated the Experimental Use Permit (EUP) data requirements into a separate subpart C. This was done in response to comments suggesting this change for clarity and to avoid confusion about the purpose of the brackets. For consistency and ease of use, EPA has adopted this new format for biochemical and microbial pesticides. Accordingly, the brackets have been removed from the product chemistry, residue, toxicology, non-target organism, and environmental fate data tables.

The new data requirements for experimental use permits are listed in § 158.2080 for biochemical pesticides and § 158.2170 for microbial pesticides.

VIII. Implementation

After the effective date, the data requirements in this final rule will apply to all new registrations of biochemical pesticides and microbial pesticides. The Agency does not intend to apply these requirements retroactively to all existing pesticide registrations but the Agency may find it necessary to call in some data on certain existing registrations, as warranted by emerging risks of concern on particular pesticides or as a result of possible programmatic changes and priorities on existing pesticides.

FIFRA sec. 3(c)(2) provides EPA broad authority, before and after registration, to require scientific testing and submission of the resulting data to the Agency by registrants and applicants of pesticide products. Although the data requirements in part 158 are imposed primarily as a part of initial registration, EPA is authorized under FIFRA sec. 3(c)(2)(B) to require a registrant to develop and submit additional data to maintain a registration. This post-registration data call-in authority recognizes that the scientific underpinnings of risk assessment change, and is another means by which EPA may keep data for use in risk assessment current with evolving science.

EPA will consider as part of its review of a pending application whether and how to apply these updated data requirements. EPA expects that few changes will be needed, as these updated requirements reflect current practice.

IX. References

The following is a listing of the documents that are specifically referenced in this final rule. These documents and other supporting materials are included in the docket established for this rulemaking under docket ID No. EPA-HQ-OPP-2004-0415 at *http://www.regulations.gov*.

1. Dearfield, K.L., Cimino, M.C., McCarroll, N.E., et al. ''Genotoxicity risk assessment: a proposed classification strategy.'' *Mutation Research* 521, 121-135 (2002).

2. December 3, 1990 EPA memo: Schneider to Hutton.

3. Gagliardi, J.V., Buyer, J.S. Angle, J.S. and Russek-Cohen, E. 2001a. Structural and functional analysis of whole-soil microbial communities for risk and efficacy testing following microbial inoculation of wheat roots in diverse soils. Soil Biol. Biochem. 33:25-40.

4. Gagliardi J.V., Angle J.S., Germida J.J., Wyndham R.C., Chanway C.P., Watson R.J., Greer C.W., McIntyre T, Yu H.H., Levin M.A., Russek-Cohen E, Rosolen S, Nairn J, Seib A, Martin-Heller T, Wisse G. 2001b. Intact soil-core microcosms compared with multi-site field releases for prerelease testing of microbes in diverse soils and climates. *Can J Microbiol.* 47(3):237-52.

5. U.S. EPA, 2006. ''Economic Analysis of the Final Data Requirements For Biochemical And Microbial Pesticides Rule.'' FEAD/OPP/U.S. EPA, Washington, D.C.

6. U.S. EPA, 2002. ''Supporting Statement for an Information Collection Request: Tolerance Petitions for Pesticides on Food/Feed Crops and New Inert Ingredients.'' OMB Control No. 2070-0024, EPA ICR No. 0597. OPP/U.S. EPA, Washington, D.C.

7. U.S. EPA, 2002. ''Supporting Statement for an Information Collection Request: Application for New or Amended Pesticide Registration.'' OMB Control No. 2070-0060, EPA ICR No. 0277. OPP/U.S. EPA, Washington, D.C.

8. U.S. EPA, 2001. ''Supporting Statement for an Information Collection Request:'' Data Generation for Reregistration; Phase 4 and 5 Reregistration.'' OMB Control No. 2070-0107, EPA ICR No. 1504. OPP/U.S. EPA, Washington, D.C.

9. U.S. EPA, 2001. ''Supporting Statement for an Information Collection Request: Data Call-Ins for the Special Review and Registration Review Programs.'' OMB Control No. 2070-0057, EPA ICR No. 0057. OPP/U.S. EPA, Washington, D.C.

10. U.S. EPA, 2004. ''Supporting Statement for an Information Collection Request: Plant-Incorporated Protectants; CBI Substantiation and Adverse Effects Reporting.'' OMB Control No. 2070-0142, EPA ICR No. 1693, Washington, D.C.

X. FIFRA Review Requirements

In accordance with FIFRA sec. 25(a), the Agency submitted a draft of this final rule to the FIFRA Scientific Advisory Panel (SAP), the Secretary of Agriculture, and the Committee on Agriculture in the House of Representatives, and the Committee on Agriculture, Nutrition, and Forestry in the United States Senate.

The FIFRA SAP waived its review of this final rule because the significant scientific issues involved have already been reviewed by the SAP and additional review is unnecessary.

XI. Statutory and Executive Order Review

A. Regulatory Planning and Review

Under Executive Order 12866, entitled *Regulatory Planning and Review* (58 FR 51735, October 4, 1993), the Office of Management and Budget (OMB) has determined that this action is a significant regulatory action because it might raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order. Accordingly, EPA submitted this action to OMB for review under Executive Order 12866 and any changes made in response to OMB recommendations have been documented in the docket for this action as required by sec. 6(a)(3)(E) of the Executive Order.

In addition, EPA has prepared an analysis of the potential costs and benefits associated with this action, entitled *Economic Analysis of the Final Data Requirements For Biochemical And Microbial Pesticides Rule (Economic Analysis).* (Ref. 4). A copy of this analysis is available in the docket for this rule and is briefly summarized here.

For the proposed rule, EPA estimated that the total annual impact to the pesticide industry is a regulatory compliance cost reduction of $3.04 million per year, with an estimated average cost reduction of $60,000 per firm, per year. During the public comment period for the proposed rule, no comments were received on the economic analysis. The majority of the comments on the proposed rule focused on definitional issues; none of the clarifications made in this final rule affect the Agency's estimate on the total annual impact to the pesticide industry. Accordingly, no substantive changes have been made to the Economic Analysis for this rulemaking.

As such, the likely impact of this final rule on businesses overall is expected to be mostly beneficial. EPA believes that the final rule would have no effect on the availability of pesticides to users. On balance, the Agency believes that cost savings resulting from the final changes to the data requirements presented in this final rule can be realized without compromising the protection of human health and the environment.

B. Paperwork Reduction Act (PRA)

This final rule does not contain any new information collection requirements that require additional approval by OMB under the Paperwork Reduction Act (PRA), 44 U.S.C. 3501 et seq. Under the PRA, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number, or is otherwise required to submit the specific information by a statute. The OMB control numbers for EPA's regulations codified in Title 40 of the CFR, after appearing in the preamble of the final rule, are further displayed either by publication in the **Federal Register** or by other appropriate means, such as on the related collection instrument or form, if applicable. The display of OMB control numbers in certain EPA regulations is consolidated in a list at 40 CFR 9.1.

Under the PRA, ''burden'' means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to: review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

The information collection requirements (i.e., the paperwork collection activities) related to the submission of data necessary to register a pesticide product are already approved by OMB under several existing information collection requests (ICR). Specifically, the activities that would generate a paperwork burden under this rule are covered by the following ICRs:

- The activities associated with the establishment of a tolerance are currently approved under OMB Control No. 2070–0024 (EPA ICR No. 0597) (Ref. 5).
- The activities associated with the application for a new or amended registration of a pesticide are currently approved under OMB Control No. 2070–0060 (EPA ICR No. 0277) (Ref. 6).
- The activities associated with the generation of data for reregistration are currently approved under OMB Control No. 2070–0107 (EPA ICR No. 1504) (Ref. 7).
- The activities associated with the generation of data for special review or registration review are currently approved under OMB Control No. 2070–0057 (EPA ICR No. 0922) (Ref. 8).
- The activities associated with notification of genetically modified microbial pesticides are currently approved under OMB Control No. 2070–0142 (EPA ICR No. 1693) (Ref. 9).

These existing ICRs cover the paperwork activities contained in this rule because these activities already occur as part of existing program activities. These program activities are an integral part of the Agency pesticide program, and the corresponding ICRs are regularly renewed as required under the PRA, such that these OMB Control Nos. are maintained valid.

Based on these existing approvals, the Agency estimates that the total average annual public reporting burden currently approved by OMB for these various activities ranges from 8 hours to approximately 3,000 hours per respondent, depending on the activity and other factors surrounding the particular pesticide product. Additional information about this estimate is provided in the Economic Analysis for this rulemaking.

C. Regulatory Flexibility Act

Pursuant to section 605(b) of the *Regulatory Flexibility Act* (RFA), 5 U.S.C. 601 et seq., the Agency hereby certifies that this rule will not have a significant adverse economic impact on a substantial number of small entities. This determination is based on the Agency's Economic Analysis performed for this rulemaking, which is summarized in Unit IX.A. above, and a copy of which is available in the docket for this rulemaking. The following is a brief summary of the factual basis for this certification.

Under the RFA, small entities include small businesses, small not-for-profit organizations, and small governmental jurisdictions. For purposes of assessing the impacts of today's rule on small entities, small entity is defined in accordance with the RFA as: (1) A small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

Based on the industry profile that EPA prepared using historical pesticide registration data as part of the Economic Analysis prepared for this rulemaking, EPA has determined that this rule is not expected to impact any small not-for-profit organizations or small governmental jurisdictions. The

historical data indicates that these types of entities do not engage in the activities covered by this rulemaking. As such, the small entity impacts analysis evaluates potentially impacted businesses that could be considered small businesses as defined by the Small Business Administration, which uses the maximum number of employees or sales for businesses in each industry sector, as that sector is defined by NAICS. For example, entities defined as Pesticide and Other Agricultural Chemical Manufacturing (325320) are considered to be a small business if they employ 500 or fewer people.

EPA then used historical data to estimate the impacts of the rule on these small businesses. Of 51 firms with biochemical or microbial registration actions between 1997 to 2004, financial data for determining company size was available for 40 firms, with 23 of those firms classified as small businesses. According to the analysis, all of these small entities would realize a reduction in costs based on the rule changes compared to the current part 158 data requirements. Given these estimated impacts on small businesses, EPA concluded that the revisions in this rule may benefit and would not likely have a significant adverse economic impact on a substantial number of small entities.

D. Unfunded Mandates Reform Act (UMRA)

Under Title II of the Unfunded Mandates Reform Act of 1995 (UMRA) (Public Law 104–4), EPA has determined that this action does not contain a Federal mandate that may result in expenditures of $100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any one year. As described in Unit XI.A., the total annual impact to the pesticide industry is estimated to be a regulatory compliance cost reduction of about $3.04 million per year.

In addition, since State, local, and tribal governments are rarely pesticide applicants or registrants, the final rule is not expected to significantly or uniquely affect small governments. Accordingly, this action is not subject to the requirements of sections 202 and 205 of UMRA.

E. Federalism Implications

Pursuant to Executive Order 13132, entitled *Federalism* (64 FR 43255, August 10, 1999), EPA has determined that this rule does not have ''federalism implications,'' because it would not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in the Order. Because instances in which a State is a registrant are extremely rare, this final rule may seldom affect a State government. Thus, Executive Order 13132 does not apply to this rule.

F. Tribal Implications

As required by Executive Order 13175, entitled *Consultation and Coordination with Indian Tribal Governments* (65 FR 67249, November 6, 2000), EPA has determined that this final rule does not have tribal implications because it would not have substantial direct effects on tribal governments, on the relationship between the Federal government and the Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes, as specified in the Order. At present, no tribal governments hold, or have applied for, a pesticide registration. Thus, Executive Order 13175 does not apply to this rule.

G. Protection of Children

Executive Order 13045, entitled *Protection of Children from Environmental Health Risks and Safety Risks* (62 FR 19885, April 23, 1997) does not apply to this final rule because this action is not designated as an ''economically significant'' regulatory action as defined by Executive Order 12866 (see Unit XI.A.). Further, this rule does not establish an environmental standard that is intended to have a negatively disproportionate effect on children. To the contrary, this action would provide added protection for children from pesticide risk. The requirements in this rule are intended to address risks that, if not addressed, could have a disproportionate negative impact on children. EPA will use the data and information obtained by this rule to carry out its mandate under FFDCA to give special attention to the risks of pesticides to sensitive subpopulations, especially infants and children.

H. Energy Implications

This rule is not subject to Executive Order 13211, entitled *Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use* (66 FR 28355, May 22, 2001), because it is not designated as an ''economically significant'' regulatory action under Executive Order 12866 (see Unit XI.A.), nor is it likely to have any significant adverse effect on the supply, distribution, or use of energy.

I. National Technology Transfer and Advancement Act (NTTAA)

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, etc.) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This regulation proposes the types of data to be required to support a biochemical or microbial pesticide registration but does not propose to require specific methods or standards to generate those data. Therefore, this regulation does not impose any technical standards that would require Agency consideration of voluntary consensus standards. EPA is not precluding the use of any method, whether it constitutes a voluntary consensus standard or not, as long as it meets the performance criteria specified. The Agency invited comment on its conclusion regarding the applicability of voluntary consensus standards to this rulemaking effort and did not receive any comments on this point.

J. Environmental Justice

This rule does not have an adverse impact on the environmental and health conditions in low-income and minority communities. Therefore, under Executive Order 12898, entitled *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (59 FR 7629, February 16, 1994), the Agency is not required to and has not considered environmental justice-related issues. Although not directly impacting environmental justice-related concerns, the Agency believes that the requirements in this rule will assist EPA and others in assessing potential risks associated with exposures to biochemical and microbial pesticides.

XII. Congressional Review Act (CRA)

The Congressional Review Act, 5 U.S.C. 801 et seq., generally provides that before a rule may take effect, the Agency promulgating the rule must

submit a rule report, which includes a copy of the rule, to each house of Congress and the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. This rule is not a major rule as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 158

Administrative practice and procedure, Agricultural commodities, Pesticides and pests, Reporting and recordkeeping requirements.

Dated: October 10, 2007.

Stephen L. Johnson,

Administrator.

■ Therefore, Title 40, chapter I, part 158 is amended as follows:

■ 1. The authority citation for part 158 continues to read as follows:

Authority: 7 U.S.C. 136–136y; 21 U.S.C. 346a.

■ 2. By adding subparts U and V to part 158 to read as follows:

Subpart U—Biochemical Pesticides

Sec.

158.2000 Biochemical pesticides definition and applicability.
158.2010 Biochemical pesticides data requirements.
158.2030 Biochemical pesticides product chemistry data requirements table.
158.2040 Biochemical pesticides residue data requirements table.
158.2050 Biochemical pesticides human health assessment data requirements table.
158.2060 Biochemical pesticides nontarget organisms and environmental fate data requirements table.
158.2070 Biochemical pesticides product performance data requirements.
158.2080 Experimental use permit data requirements - biochemical pesticides.
158.2081 Experimental use permit biochemical pesticides product chemistry data requirements table.
158.2082 Experimental use permit biochemical pesticides residue data requirements table.
158.2083 Experimental use permit biochemical pesticides human health assessment data requirements table.
158.2084 Experimental use permit biochemical pesticides nontarget organisms and environmental fate data requirements table.

Subpart V— Microbial Pesticides

Sec.

158.2100 Microbial pesticides definition and applicability.
158.2110 Microbial pesticides data requirements.
158.2120 Microbial pesticides product analysis data requirements table.
158.2130 Microbial pesticides residue data requirements table.
158.2140 Microbial pesticides toxicology data requirements table.
158.2150 Microbial pesticides nontarget organisms and environmental fate data requirements table.
158.2160 Microbial pesticides product performance data requirements.
158.2170 Experimental use permit data requirements-microbial pesticides.
158.2171 Experimental use permit microbial pesticides product analysis data requirements table.
158.2172 Experimental use permit microbial pesticides residue data requirements table.
158.2173 Experimental use permit microbial pesticides toxicology data requirements table.
158.2174 Experimental use permit microbial pesticides nontarget organisms and environmental fate data requirements table.

Subpart U—Biochemical Pesticides

§ 158.2000 Biochemical pesticides definition and applicability.

This subpart applies to all biochemical pesticides as defined in paragraphs (a), (b), and (c) of this section.

(a) *Definitions*. The following terms are defined for the purposes of subpart U of this part.

(1) A *biochemical pesticide* is a pesticide that:

(i) Is a naturally-occurring substance or structurally-similar and functionally identical to a naturally-occurring substance;

(ii) Has a history of exposure to humans and the environment demonstrating minimal toxicity, or in the case of a synthetically-derived biochemical pesticides, is equivalent to a naturally-occurring substance that has such a history; and

(iii) Has a non-toxic mode of action to the target pest(s).

(2) A *Pheromone* is a compound produced by a living organism or is a synthetically derived substance that is structurally similar and functionally identical to a naturally-occurring pheromone, which, alone or in combination with other such compounds, modifies the behavior of other individuals of the same species.

(i) An *Arthropod Pheromone* is a pheromone produced by a member of the taxonomic phylum Arthropoda.

(ii) A *Lepidopteran Pheromone* is an arthropod pheromone produced by a member of the insect order Lepidoptera.

(iii) A *Straight Chain Lepidopteran Pheromone* is a lepidopteran pheromone consisting of an unbranched aliphatic chain (between 9 and 18 carbons) ending in an alcohol, aldehyde, or acetate functional group and containing up to three double bonds in the aliphatic backbone.

(b) *Examples*. Biochemical pesticides include, but are not limited to:

(1) Semiochemicals (insect pheromones and kairomones),

(2) Natural plant and insect regulators,

(3) Naturally-occurring repellents and attractants, and

(4) Enzymes.

(c) *Applicability*. The Agency may review, on a case-by-case basis, naturally-occurring pesticides that do not clearly meet the definition of a biochemical pesticide in an effort to ensure, to the greatest extent possible, that only the minimum testing sufficient to make scientifically sound regulatory decisions would be conducted. The Agency will review applications for registration of naturally-occurring pesticides to determine whether to review the pesticide under this subpart U.

§ 158.2010 Biochemical pesticides data requirements.

(a) Sections 158.2030 through 158.2070 identify the data requirements that are required to support registration of biochemical pesticides. Sections 158.2080 through 158.2084 identify the data requirements that are required to support Experimental Use Permits (EUPs). Variations in the test conditions are identified within the test notes. Definitions that apply to all biochemical data requirements can be found in § 158.2000.

(b) Each data table includes ''use patterns'' under which the individual data are required, with variations including food and nonfood uses for terrestrial and aquatic applications, greenhouse, indoor, forestry, and residential outdoor applications under certain circumstances.

(c) The categories for each data requirement are ''R'', which stands for required, and ''CR'' which stands for conditionally required. Generally, ''R'' indicates that the data are more likely required than for those data requirements with ''CR.'' However, in each case, the regulatory text preceding the data table and the test notes following the data table must be used to determine whether the data requirement must be satisfied.

(d) Each table identifies the test substance that is required to be tested to satisfy the data requirement. Test substances may include: technical grade active ingredient (TGAI), manufacturing-use product (MP), end-use product (EP), typical end-use

product (TEP), residue of concern, and pure active ingredient (PAI) or all of the above (All). Commas between the test substances (i.e., TGAI, EP) indicate that data may be required on the TGAI or EP or both depending on the conditions set forth in the test note.

(e) The data requirements are organized into a tier-testing system with specified additional studies at higher tiers being required if warranted by adverse effects observed in lower tier studies. The lower tier studies are a subset of those required for conventional pesticides, and the studies overall are generally selected from those required for conventional pesticides.

(f) Two sets of guideline numbers are provided for some of the environmental fate data requirements. For ease of understanding, the current guidelines will be used as an interim measure until the new guidelines (in parentheses) are finalized.

§ 158.2030 Biochemical pesticides product chemistry data requirements table.

(a) *General.* (1) Sections 158.100 through 158.130 describe how to use this table to determine the product chemistry data requirements for a particular pesticide product. Notes that apply to an individual test and include specific conditions, qualifications, or exceptions to the designated test are listed in paragraph (e) of the section.

(2) Definitions in § 158.300 apply to data requirements in this section.

(b) *Use patterns.* Product chemistry data are required for all pesticide products and are not use specific.

(c) *Key.* R=Required; CR=Conditionally required; NR=Not required; MP=Manufacturing-use product; EP=End-use product; TEP=Typical end-use product; TGAI=Technical grade of the active ingredient; Residue of concern=the active ingredient and its metabolites, degradates, and impurities of toxicological concern; All=All of the above.

(d) *Table.* The following table shows the data requirements for biochemical pesticides product chemistry. The test notes are shown in paragraph (e) of this section.

TABLE—BIOCHEMICAL PESTICIDES PRODUCT CHEMISTRY DATA REQUIREMENTS

Guideline Number	Data Requirement	All Use Patterns	Test Substance		Test Notes
			MP	EP	
Product Identity and Composition					
880.1100	Product identity and composition	R	TGAI, MP	TGAI, EP	1, 2
880.1200	Description of starting materials, production and formulation process	R	TGAI, MP	TGAI, EP	2, 3
880.1400	Discussion of formation of impurities	R	TGAI and MP	TGAI and EP	4
Analysis and Certified Limits					
830.1700	Preliminary analysis	CR	TGAI and MP	TGAI and EP	5, 8
830.1750	Certified limits	R	MP	EP	6
830.1800	Enforcement analytical method	R	MP	EP	7
Physical and Chemical Characteristics					
830.6302	Color	R	TGAI	TGAI	8
830.6303	Physical state	R	TGAI and MP	TGAI and EP	8
830.6304	Odor	R	TGAI	TGAI	8
830.6313	Stability to normal and elevated temperatures, metals and metal ions	R	TGAI	TGAI	8, 17
830.6315	Flammability	CR	MP	EP	9
830.6317	Storage stability	R	MP	EP	--
830.6319	Miscibility	CR	MP	EP	10
830.6320	Corrosion characteristics	R	MP	EP	--
830.7000	pH	CR	TGAI and MP	TGAI and EP	8, 11
830.7050	UV/Visible light absorption	R	TGAI	TGAI	--
830.7100	Viscosity	CR	MP	EP	12
830.7200	Melting point/melting range	CR	TGAI	TGAI	8, 13

TABLE—BIOCHEMICAL PESTICIDES PRODUCT CHEMISTRY DATA REQUIREMENTS—Continued

Guideline Number	Data Requirement	All Use Patterns	Test Substance		Test Notes
			MP	EP	
830.7220	Boiling point/boiling range	CR	TGAI	TGAI	8, 14
830.7300	Density/relative density/bulk density	R	TGAI and MP	TGAI and EP	8, 18
830.7520	Particle size, fiber length, and diameter distribution	CR	TGAI	TGAI	8, 15
830.7550 830.7560 830.7570	Partition coefficient (n-Octanol /Water)	CR	TGAI	TGAI	16
830.7840	Water solubility	R	TGAI	TGAI	8
830.7950	Vapor pressure	R	TGAI	TGAI	8, 19

(e) *Test notes*. The following test notes are applicable to the data requirements for biochemical pesticides product chemistry and are referenced in the last column of the table in paragraph (d) of this section.

1. Data must be provided in accordance with § 158.320.
2. If the MP and EP are produced by an integrated formulation system (non-registered source), these data are also required on TGAI.
3. Data must be provided in accordance with §§ 158.325, 158.330, and § 158.335.
4. Data must be provided in accordance with § 158.340.
5. Data must be provided in accordance with § 158.345. Also, required to support the registration of each manufacturing-use product (including registered TGAIs) and end-use products produced by an integrated formulation system. Data on other end-use products would be required on a case-by-case basis.
6. Data must be provided in accordance with § 158.350.
7. Data must be provided in accordance with § 158.355.
8. If the TGAI cannot be isolated, data are required on the practical equivalent of the TGAI. EP testing may also be appropriate.
9. Required if the product contains combustible liquids.
10. Required if the product is an emulsifiable liquid and is to be diluted with petroleum solvents.
11. Required if the test substance is soluble or dispersible in water.
12. Required if the product is a liquid.
13. Required when the technical chemical is a solid at room temperature.
14. Required when the technical chemical is a liquid at room temperature.
15. Required for water insoluble test substances (>10^{-6}g/l) and fibrous test substances with diameter ≥0.1 μm.
16. Required for organic chemicals unless they dissociate in water or are partially or completely soluble in water.
17. Data on the stability to metals and metal ions is required only if the active ingredient is expected to come in contact with either material during storage.
18. True density or specific density are required for all test substances. Data on bulk density is required for MPs or EPs that are solid at room temperature.
19. Not required for salts.

§ 158.2040 Biochemical pesticides residue data requirements table.

(a) *General*. Sections 158.100 through 158.130 describe how to use this table to determine the biochemical pesticides residue data requirements for a particular pesticide product and the substance that needs to be tested. These data requirements apply to all biochemical pesticides, i.e. naturally occurring insect repellents and attractants, semiochemicals (e.g., insect pheromones), natural and plant growth regulators. Notes that apply to an individual test and include specific conditions, qualifications, or exceptions to the designated test are listed in paragraph (e) of this section.

(b) *Use patterns*. (1) Data are required or conditionally required for all pesticides used in or on food and for residential outdoor uses where food crops are grown. Food use patterns include products classified under the general use patterns of terrestrial food crop use, terrestrial feed crop use, aquatic food crop use, greenhouse food crop use, and indoor food use. Data are also conditionally required for aquatic nonfood use if there is direct application to water that could subsequently result in exposure to food.

(2) Data are conditionally required for nonfood uses if pesticide residues may occur in food or feed as a result of the use. Data requirements for these nonfood uses would be determined on a case-by-case basis. For example, most products used in or near kitchens require residue data for risk assessment purposes even though tolerances may not be necessary in all cases.

(c) *Key*. R=Required; CR=Conditionally required; NR=Not required; MP=Manufacturing end-use product; EP=End-use product; TEP=Typical end-use product; TGAI=Technical grade of the active ingredient; Residue of concern=the active ingredient and its metabolites, degradates, and impurities of toxicological concern; All=All of the above. Specific conditions, qualifications, or exceptions to the designated test procedures appear in paragraph (e) of this section, and apply to the individual tests in the following table:

(d) *Data requirements table*. The following table shows the data requirements for biochemical pesticides residue. The test notes are shown in paragraph (e) of this section.

TABLE—BIOCHEMICAL RESIDUE DATA REQUIREMENTS FOR SPECIFIC USES

Guideline Number	Data Requirement	Use Patterns				Test Substance	Test Notes
		Terrestrial Food/Feed	Aquatic Food	Greenhouse Food	Indoor Food		
Supporting Information							
860.1100	Chemical identity	CR	CR	CR	CR	TGAI	1, 2, 4
860.1200	Directions for use	CR	CR	CR	CR	--	1, 3, 4
Nature of the Residue							
860.1300	Nature of the residue in plants	CR	CR	CR	CR	TGAI	1, 4, 5, 6
860.1300	Nature of the residue in livestock	CR	CR	CR	CR	TGAI or plant metabolite	1, 7, 8, 10, 13
860.1340	Residue analytical method	CR	CR	R	CR	Residue of concern	4, 9, 10
860.1360	Multiresidue method	CR	CR	R	CR	Residue of concern	10, 11
Magnitude of the Residue							
860.1400	Potable water	NR	CR	NR	NR	TGAI	1, 12
860.1400	Fish	NR	CR	NR	NR	TGAI	1, 13
860.1400	Irrigated crops	NR	CR	NR	NR	TGAI	1, 14
860.1460	Food handling	NR	NR	NR	CR	TGAI	1, 15
860.1480	Meat/milk/poultry/eggs	CR	CR	CR	CR	TGAI or plant metabolites	1, 7, 8, 10
860.1500	Crop field trials	CR	CR	CR	CR	TEP	1, 3, 4
860.1520	Processed food/feed	CR	CR	CR	CR	TEP	1, 16
860.1540	Anticipated residues	CR	CR	CR	CR	Residue of concern	1, 10, 17
860.1550	Proposed tolerances	CR	CR	CR	CR	--	1, 18
860.1560	Reasonable grounds in support of the petition	CR	CR	CR	CR	--	1, 10
860.1650	Submittal of analytical reference standards	CR	CR	CR	CR	TGAI and residue of concern	10, 19

(e) *Test notes.* The following test notes are applicable to the data requirements for biochemical pesticides product chemistry and are in the last column of the table contained in paragraph (d) of this section.

1. Residue chemistry data requirements apply to biochemical pesticide products when Tier II or Tier III toxicology data are required, as specified for biochemical agents in the biochemical human health assessment data requirements, §158.2050.

2. The same chemical identity data are required for biochemical product chemistry data requirements, §158.2030, with an emphasis on impurities.

3. Required information includes crops to be treated, rate of application, number and timing of applications, preharvest intervals, and relevant restrictions.

4. Required for residential outdoor uses on food crops if the corresponding agricultural use is not approved or the residential use is expected to produce higher residues based on the label directions .

5. Required unless it is an arthropod pheromone applied at a rate less than or equal to 150 grams active ingredient per acre.

6. Required for indoor uses where the pesticide is applied directly to food, in order to determine metabolites and/or degradates. Not required when only indirect contact with food would occur (e.g., crack and crevice treatments).

7. Required when a pesticide is to be applied directly to livestock, to livestock premises, to livestock drinking water, or to crops used for livestock feed.

8. If results from the plant metabolism study show differing metabolites in plants from those found in animals, an additional livestock metabolism study involving dosing with the plant metabolite(s) may also be required.

9. A residue analytical method suitable for enforcement of tolerances is required whenever a numeric tolerance (including temporary and time-limited tolerances) is proposed.

10. Required if indoor use could result in pesticide residues in or on food or feed.

11. Data are required to determine whether FDA/USDA multiresidue methodology would detect and identify the pesticides and any metabolites.

12. Data are required whenever a pesticide may be applied directly to water, unless it can be demonstrated that the treated water would not be available for human or livestock consumption.

13. Data on fish are required for all pesticides applied directly to water inhabited, or which will be inhabited by fish that may be caught or harvested for human consumption .

14. Data are required when a pesticide is to be applied directly to water that could be used for irrigation or to irrigation facilities such as irrigation ditches.

15. Data are required whenever a pesticide may be used in food/feed handling establishments.

16. Data on the nature and level of residue in processed food/feed are required when detectible residues could potentially concentrate on processing thus requiring the establishment of a separate tolerance higher than that of the raw agricultural commodity.

17. Required when residues at the tolerance level may result in risk of concern. These data may include washing, cooking, processing, or degradation studies as well as market basket surveys for a more precise residue determination.

18. The proposed tolerance must reflect the maximum residue likely to occur in crops, in meat, milk, poultry, or eggs.

19. Required when a residue analytical method is required.

§ 158.2050 Biochemical pesticides human health assessment data requirements table.

(a) *General.* (1) Sections 158.100 through 158.130 describe how to use this table to determine the biochemical human health assessment data requirements for a particular biochemical pesticide product.

(2) The data in this section are not required for straight chain lepidopteran pheromones when applied up to a maximum use rate of 150 grams active ingredient/acre/year.

(b) *Use patterns.* (1) Food use patterns, in general, include products classified under the following general uses: terrestrial food crop use; terrestrial feed crop use; aquatic food crop use; greenhouse food crop use.

(2) Nonfood use patterns include products classified under the general use patterns of terrestrial nonfood crop use; aquatic nonfood residential use; aquatic nonfood outdoor use; aquatic nonfood industrial use; greenhouse nonfood crop use; forestry use; residential outdoor use; residential indoor use; indoor food use; indoor nonfood use; indoor medical use.

(c) *Key.* R=Required; CR=Conditionally required; NR=Not required; MP=Manufacturing-use product; EP=End-use product; TEP=Typical end-use product; TGAI=Technical grade of the active ingredient; Residue of concern=the active ingredient and its metabolites, degradates, and impurities of toxicological concern; All=All of the above. Specific conditions, qualifications, or exceptions to the designated test procedures appear in paragraph (e) of this section, and apply to the individual tests in the following table:

(d) *Table.* The following table shows the data requirements for biochemical pesticides human health assessment. The test notes are shown in paragraph (e) of this section.

TABLE—BIOCHEMICAL PESTICIDES HUMAN HEALTH ASSESSMENT DATA REQUIREMENTS

Guideline Number	Data Requirement	Use Patterns		Test Substance		Test Notes
		Food	Nonfood	MP	EP	
Tier I						
Acute Testing						
870.1100	Acute oral toxicity - rat	R	R	TGAI and MP	TGAI and EP	1
870.1200	Acute dermal toxicity	R	R	TGAI and MP	TGAI and EP	1, 2
870.1300	Acute inhalation toxicity - rat	R	R	TGAI and MP	TGAI and EP	3
870.2400	Primary eye irritation - rabbit	R	R	TGAI and MP	TGAI and EP	2
870.2500	Primary dermal irritation	R	R	TGAI and MP	TGAI and EP	1, 2
870.2600	Dermal sensitization	R	R	TGAI and MP	TGAI and EP	2, 4
none	Hypersensitivity incidents	R	R	All	All	5
Subchronic Testing						
870.3100	90-day oral (one species)	R	CR	TGAI	TGAI	6
870.3250	90-day dermal - rat	CR	CR	TGAI	TGAI	7
870.3465	90-day inhalation - rat	CR	CR	TGAI	TGAI	8
Developmental Toxicity						
870.3700	Prenatal developmental - rat preferably	R	CR	TGAI	TGAI	9
Mutagenicity Testing						

TABLE—BIOCHEMICAL PESTICIDES HUMAN HEALTH ASSESSMENT DATA REQUIREMENTS—Continued

Guideline Number	Data Requirement	Use Patterns		Test Substance		Test Notes
		Food	Nonfood	MP	EP	
870.5100	Bacterial reverse mutation test	R	CR	TGAI	TGAI	10
870.5300 870.5375	*In vitro* mammalian cell assay	R	CR	TGAI	TGAI	10, 11
Tier II						
Mutagenicity Testing (*In vivo* cytogenetics)						
870.5385 870.5895	*In vivo* Mammalian Cytogenetics	CR	CR	TGAI	TGAI	13
Developmental Toxicity						
870.3700	Prenatal developmental	CR	CR	TGAI	TGAI	9
Special Tests						
880.3550	Immunotoxicity	CR	CR	TGAI	TGAI	12, 13
Applicator/User Exposure						
875.1100	Dermal outdoor exposure	CR	CR	TGAI	TGAI	15
875.1200	Dermal indoor exposure	CR	CR	TGAI	TGAI	15
875.1300	Inhalation outdoor exposure	CR	CR	TGAI	TGAI	15
875.1400	Inhalation indoor exposure	CR	CR	TGAI	TGAI	15
875.1500	Biological monitoring	CR	CR	TGAI	TGAI	15
Tier III						
Chronic Testing/Special Testing						
880.3800	Immune response	CR	CR	TGAI	TGAI	14
870.3800	Reproduction and fertility effects	CR	CR	TGAI	TGAI	16
870.4100	Chronic oral - rodent and nonrodent	CR	CR	TGAI	TGAI	17
870.4200	Carcinogenicity - two species - rat and mouse preferred	CR	CR	TGAI	TGAI	18
870.5380	Mammalian spermatogonial chromosome aberration test	CR	CR	TGAI	TGAI	19
Special Testing						
870.7200	Companion animal safety	CR	CR	NR	TGAI or EP	20

(e) *Test notes.* The following test notes are applicable to the data requirements for biochemical pesticides human health assessment as referenced in the last column of the table in paragraph (d) of this section.

1. Required unless the test material is a gas or highly volatile (vapor pressure $>10^{-4}$torr (mm/Hg)).

2. Required unless the test material is corrosive to skin or has pH <2 or >11.5.

3. Required when the pesticide, under conditions of use, would result in respirable material (e.g., gas, volatile substance or aerosol/particulate), unless it is a straight chain lepidopteran pheromone.

4. Required if repeated contact with human skin is likely to occur under conditions of use.

5. Hypersensitivity incidents must be reported as adverse effects data.

6. Required for non-food uses that are likely to result in repeated oral exposure to humans.

7. Required to support uses involving purposeful application to the human skin or which would result in comparable prolonged human exposure to the product (e.g., insect repellents) and if any of the following criteria are met:

i. Data from a 90–day oral study are not required.

ii. The active ingredient is known or expected to be metabolized differently by the dermal route of exposure than by the oral route and the metabolite is of toxicological concern.

iii. The use pattern is such that the dermal route would be the primary route of exposure.

8. Required if there is a likelihood of significant levels of repeated inhalation exposure to the pesticide as a gas, vapor, or aerosol.

9. Required if the use of the product under widespread and commonly recognized practice may reasonably be expected to result in significant exposure to female humans (e.g., occupational exposure or repeated application of insect repellents directly to the skin). Tier II data is required on a different test species from Tier I data when

developmental effects are observed in the first study and information on species-to-species extrapolation is needed.

10. Required to support nonfood uses if either:

i. The use is likely to result in significant human exposure; or

ii. The active ingredient (or its metabolites) is structurally related to a known mutagen or belongs to any chemical class of compounds containing a known mutagen. Additional mutagenicity tests that may have been performed plus a complete reference list must also be submitted. Subsequent testing may be required based on the available evidence.

11. Choice of assay using either:

i. Mouse lymphoma L5178Y cells, thymidine kinase (tk) gene locus, maximizing assay conditions for small colony expression or detection;

ii. Chinese hamster ovary (CHO) or Chinese hamster lung fibroblast (V79) cells, hypoxanthine-guanine phosphoribosyl transferase (hgprt) gene locus, accompanied by an appropriate *in vitro* test for clastogenicity; or

iii. CHO cells strains AS52, xanthine-guanine phosphoribosyl transferase (xprt) gene locus.

12. Required if there are effects on hematology, clinical chemistry, lymphoid organ weights, and histopathology are observed in the 90–day studies.

13. The micronucleus rodent bone marrow assay is preferred; however, rodent bone marrow assays using metaphase analysis (aberrations) are acceptable.

14. Required if adverse effects are observed in the Tier II immunotoxicity study. The protocol for evaluating adverse effects to the immune response should be developed after evaluating the effects noted in the immunotoxicity study.

15. These data are required when the data used for the human health assessment indicates that the biochemical may pose a potential hazard to the applicator/user.

16. Required if there is evidence of:

i. Endocrinological effects from the subchronic toxicity studies.

ii. Developmental effects in the prenatal developmental toxicity study(s), or

iii. Genotoxicity to mammals based on results from the mutagenicity tests.

The use of a combined study that utilizes the two-generation reproduction study in rodents (guideline 870.3800) as a basic protocol for the addition of other endpoints or functional assessments in the immature animal is encouraged.

17. Required if the potential for adverse chronic effects is indicated based on any of the following:

i. The subchronic effect level established in the following Tier I studies: 90–day oral toxicity study, 90–day dermal toxicity study, or 90–day inhalation toxicity study.

ii. The pesticide use pattern (e.g., rate, frequency, and site of application).

iii. The frequency and level of repeated human exposure that is expected.

18. Required if the product meets either of the following criteria:

i. The active ingredient (or any of its metabolites, degradation products, or impurities) produce(s) in Tier I subchronic studies a morphologic effect (e.g., hyperplasia or metaplasia) in any organ that potentially could lead to neoplastic change.

ii. Adverse cellular effects suggesting carcinogenic potential are observed in Tier II immunotoxicity and Tier III immune response study or in Tier II mammalian mutagenicity assays.

In addition, a 90–day range finding study in both rats and mice is required to determine the dose levels if carcinogenicity studies are required. If the mouse carcinogenicity study is not required, the 90–day mouse subchronic study is likewise not required.

19. Required if results from lower tiered mutation or reproductive studies indicate there is potential for chromosomal aberration to occur.

20. May be required if the product's use will result in exposure to domestic animals through, but not limited to, direct application or consumption of treated feed.

§ 158.2060 Biochemical pesticides nontarget organisms and environmental fate data requirements table.

(a) *General.* (1) Sections 158.100 through 158.130 describe how to use this table to determine the terrestrial and aquatic nontarget organisms and fate data requirements for a particular biochemical pesticide product. Notes that apply to an individual test including specific conditions, qualifications, or exceptions to the designated test are listed in paragraph (e) of this section. In general, for all outdoor end-use products including turf, the following studies are required: one avian acute oral, one avian dietary, one acute freshwater fish, one acute freshwater invertebrate study, plant toxicity testing, and a honeybee acute contact study.

(2) The data in this section are not required for arthropod pheromones when applied at up to a maximum use rate of 150 grams active ingredient/acre/year except when the product is expected to be available to avian species (i.e., granular formulation).

(b) *Use patterns.* The terrestrial use pattern includes products classified under the general use patterns of terrestrial food crop, terrestrial feed crop, and terrestrial nonfood/nonfeed crop. The greenhouse use pattern includes products classified under the general use patterns of greenhouse food crop and greenhouse nonfood crop. The indoor use pattern includes products classified under the general use patterns of indoor food and nonfood use. The remaining terrestrial uses include: forestry and residential outdoor use. Data are also required for the general use patterns of aquatic food and nonfood crop use.

(c) *Key.* R=Required; CR=Conditionally required; NR=Not required; MP=Manufacturing-use product; EP=End-use product; TEP=Typical end-use product; TGAI=Technical grade of the active ingredient; Residue of concern=the active ingredient and its metabolites, degradates, and impurities of toxicological concern; All=All of the above. Specific conditions, qualifications, or exceptions to the designated test procedures appear in paragraph (e) of this section, and apply to the individual tests in the following table:

(d) *Table.* The following table shows the data requirements for biochemical pesticides nontarget organisms and environmental fate. The test notes are shown in paragraph (e) of this section.

TABLE—BIOCHEMICAL PESTICIDES NONTARGET ORGANISMS AND ENVIRONMENTAL FATE DATA REQUIREMENTS

Guideline Number	Data Requirement	Use Patterns					Test Substance	Test Notes
		Terrestrial	Aquatic	Greenhouse	Forestry, Residential Outdoor	Indoor		
		Food/Feed/Nonfood	Food/Nonfood	Food/Nonfood		Food/Nonfood		
Tier I								
Avian Testing								
850.2100	Avian acute oral toxicity	R	R	CR	R	CR	TGAI, EP	1, 2, 3, 4

TABLE—BIOCHEMICAL PESTICIDES NONTARGET ORGANISMS AND ENVIRONMENTAL FATE DATA REQUIREMENTS—Continued

Guideline Number	Data Requirement	Use Patterns					Test Substance	Test Notes
		Terrestrial	Aquatic	Greenhouse	Forestry, Residential Outdoor	Indoor		
		Food/ Feed/ Nonfood	Food/ Nonfood	Food/ Nonfood		Food/ Nonfood		
850.2200	Avian dietary toxicity	R	R	CR	R	CR	TGAI, EP	1, 2, 3, 4
Aquatic Organism Testing								
850.1075	Fish acute toxicity, freshwater	R	R	CR	R	CR	TGAI, EP	2, 3, 4, 5
850.1010	Aquatic invertebrate acute toxicity, freshwater	R	R	CR	R	CR	TGAI, EP	2, 3, 5
Nontarget Plant Testing								
850.4100	Terrestrial Plant Toxicity, Seedling emergence	R	R	NR	R	NR	TGAI, EP	5
850.4150	Terrestrial Plant Toxicity, Vegetative vigor	R	R	NR	R	NR	TGAI, EP	5
Insect Testing								
880.4350	Nontarget Insect Testing	R	R	R	R	NR	TGAI	14
Tier II								
Environmental Fate Testing								
163-1 (835.1230)	Sediment and soil adsorption/ desorption for parent and degradates	CR	CR	CR	CR	NR	TGAI	6
163-1 (835.1240)	Soil column leaching	CR	CR	CR	CR	NR	TGAI	6
163-2 (835.1410)	Laboratory volatilization from soil	CR	NR	CR	CR	NR	TEP	7
161-1 (835.2120)	Hydrolysis	CR	CR	CR	CR	NR	TGAI	6
161-1 (835.4100)	Aerobic soil metabolism	CR	NR	CR	CR	NR	TGAI	6
161-2 (835.2240)	Photodegradation in water	CR	CR	CR	CR	NR	TGAI	6
161-3 (835.2410)	Photodegradation on soil	CR	NR	CR	CR	NR	TGAI	6
162-2 (835.4200)	Anaerobic soil metabolism	CR	NR	NR	NR	NR	TGAI	6
162-4 (835.4300)	Aerobic aquatic metabolism	CR	CR	CR	CR	NR	TGAI	6
162-3 (835.4400)	Anaerobic aquatic metabolism	CR	CR	NR	NR	NR	TGAI	6
880.4425	Dispenser - water leaching	CR	NR	CR	CR	NR	EP	8
Nontarget Plant								
850.4225	Seedling emergence	R	R	NR	R	NR	TGAI	9
850.4250	Vegetative vigor	R	R	NR	R	NR	TGAI	9
Tier III								
Aquatic Fauna Chronic, Life Cycle, and Field Studies								
850.1300 850.1400 850.1500	Freshwater fish/invertebrate testing	CR	CR	NR	CR	NR	TGAI	10

TABLE—BIOCHEMICAL PESTICIDES NONTARGET ORGANISMS AND ENVIRONMENTAL FATE DATA REQUIREMENTS—Continued

Guideline Number	Data Requirement	Use Patterns					Test Substance	Test Notes
		Terrestrial	Aquatic	Greenhouse	Forestry, Residential Outdoor	Indoor		
		Food/ Feed/ Nonfood	Food/ Nonfood	Food/ Nonfood		Food/ Nonfood		
850.1025 850.1035 850.1045 850.1055 850.1350 850.1400 850.1500	Marine/Estuarine fish/invertebrate animal testing	CR	CR	NR	CR	NR	TGAI	10
850.1950	Aquatic field fish/invertebrate testing	CR	CR	NR	CR	NR	EP	10
Terrestrial Wildlife								
850.2300	Avian Reproduction	CR	CR	NR	CR	NR	TGAI	11
850.2400	Wild mammal acute toxicity	CR	CR	NR	CR	NR	TGAI	11
850.2500	Terrestrial field testing	CR	CR	NR	CR	NR	EP	11
Beneficial Insects								
850.3040	Field testing for Pollinators	CR	CR	NR	CR	NR	TEP	12
Nontarget Plants								
850.4225 850.4250 850.4300 850.4450	Nontarget plant	CR	CR	NR	CR	NR	TGAI	13

(e) *Test notes*. The following test notes are applicable to the data requirements for biochemical pesticides nontarget organisms and environmental fate as referenced in the last column of the table contained in paragraph (d) of this section.

1. Required for the EP when any end-use formulation may contain other ingredients that may be toxic to nontarget organisms or to support arthropod pheromones that would be available to avian wildlife, (e.g., a granular product).

2. Tests for pesticides intended solely for indoor application would be required on a case-by-case basis, depending on use pattern, physical/chemical properties, production volume, and other pertinent factors.

3. Not required for any use groups if the pesticide is highly volatile (estimated volatility >5 X 10^{-5}atm m^3/mol).

4. Preferred test species are Upland game, waterfowl, or passerine for avian acute oral toxicity studies; Upland game and waterfowl for avian dietary studies; and coldwater fish species for acute freshwater fish studies.

5. Required for the EP when the end-use formulation may contain other ingredients that may be toxic to nontarget organisms.

6. Required on a case-by-case basis when results from Tier I studies indicate adverse effects.

7. Required when results of any one or more of the nontarget organism studies in Tier I indicate potential adverse effects on nontarget organisms and the pesticide is to be applied on land. In view of methdological difficulties with the study of photodegradation in air, prior consultation with the Agency regarding the protocol is recommended before the test is performed.

8. Required when results of any one or more of the nontarget organism studies in Tier I indicate potential adverse effects on nontarget organisms and the pesticide is to be applied in a passive dispenser.

9. Required to support registration of known phytotoxicants, i.e. herbicides, desiccants, defoliants, and plant growth regulators.

10. Required if environmental fate characteristics indicate that the estimated environmental concentration of the pesticide in the aquatic environment is >0.01 of any EC_{50} or LC_{50} determined in the aquatic nontarget organism testing.

11. Required if either of the following criteria are met:

i. Environmental fate characteristics indicate that the estimated concentration of the pesticide in the terrestrial environment is > 0.20 the avian dietary LC_{50} or equal to > 0.20 the avian oral single dose LD_{50} (converted to ppm).

ii. The pesticide or any of its metabolites or degradation products are stable in the environment to the extent that potentially toxic amounts may persist in the avian or mammalian feed.

12. Required when results of Tier I nontarget organism studies indicate potential adverse effects on nontarget insects and results of Tier II tests indicate exposure of nontarget insects. Additional insect species may have to be tested if necessary to address issues raised by use patterns and potential exposure of important nontarget insect species, (e.g., threatened or endangered species).

13. Required if the product is expected to be transported from the site of application by air, soil, or water. The extent of movement would be determined by the results of the Tier II environmental fate studies.

14. Required depending on pesticide mode of action, method and timing of application, and results of any available efficacy data. Typically the honeybee acute toxicity guideline (guideline 850.3020) satisfies this requirement, however, additional nontarget insect species may have to be tested if necessary to address issues raised by use patterns and potential exposure of important nontarget insect species, (e.g., endangered species.)

§ 158.2070 Biochemical pesticides product performance data requirements.

Product performance data must be developed for all biochemical

pesticides. However, the Agency typically does not require applicants to submit such efficacy data unless the pesticide product bears a claim to control public health pests, such as pest microorganisms infectious to man in any area of the inanimate environment or a claim to control vertebrates (including but not limited to: rodents, birds, bats, canids, and skunks) or invertebrates (including but not limited to: mosquitoes and ticks) that may directly or indirectly transmit diseases to humans. However, each registrant must ensure through testing that his products are efficacious when used in accordance with label directions and commonly accepted pest control practices. The Agency reserves the right to require, on a case-by-case basis, submission of efficacy data for any pesticide product registered or proposed for registration.

§ 158.2080 Experimental use permit data requirements—biochemical pesticides.

(a) Sections 158.2081 through 158.2084 describe the experimental use permit (EUP) data requirements for biochemical pesticides. Variations in the test conditions are identified within the test notes. Definitions that apply to all biochemical data requirements can be found in § 158.2000.

(b) For general information on the data requirement tables, see § 158.2010(b)-(f).

§ 158.2081 Experimental use permit biochemical pesticides product chemistry data requirements table.

(a) *General.* (1) Sections 158.100 through 158.130 describe how to use this table to determine the product chemistry data requirements for a particular biochemical pesticide product. Notes that apply to an individual test and include specific conditions, qualifications, or exceptions to the designated test are listed in paragraph (e) of the section.

(2) Depending on the results of the required product chemistry studies, appropriate use restrictions, labeling requirements, or special packaging requirements may be imposed.

(b) *Use patterns.* Product chemistry data are required for all pesticide products and are not use specific.

(c) *Key.* R=Required; CR=Conditionally required; NR=Not required; MP=Manufacturing-use product; EP=End-use product; TEP=Typical end-use product; TGAI=Technical grade of the active ingredient; Residue of concern=the active ingredient and its metabolites, degradates, and impurities of toxicological concern; All=All of the above. Specific conditions, qualifications, or exceptions to the designated test procedures appear in paragraph (e) of this section, and apply to the individual tests in the following table:

(d) *Table.* The following table shows the data requirements for experimental use permit biochemical pesticides product chemistry. The test notes are shown in paragraph (e) of this section .

TABLE—EUP BIOCHEMICAL PESTICIDES PRODUCT CHEMISTRY DATA REQUIREMENTS

Guideline Number	Data Requirement	All Use Patterns	Test Substance		Test Notes
			MP	EP	
Product Identity and Composition					
880.1100	Product identity and composition	R	TGAI, MP	TGAI, EP	1, 2
880.1200	Description of starting materials, production and formulation process	R	TGAI, MP	TGAI, EP	2, 3
880.1400	Discussion of formation of impurities	R	TGAI and MP	TGAI and EP	4
Analysis and Certified Limits					
830.1700	Preliminary analysis	CR	TGAI and MP	TGAI and EP	5, 8
830.1750	Certified limits	R	MP	EP	6
830.1800	Enforcement analytical method	R	MP	EP	7
Physical and Chemical Characteristics					
830.6302	Color	R	TGAI	TGAI	8
830.6303	Physical state	R	TGAI and MP	TGAI and EP	8
830.6304	Odor	R	TGAI	TGAI	8
830.6313	Stability to normal and elevated temperatures, metals and metal ions	R	TGAI	TGAI	8, 17
830.6315	Flammability	CR	MP	EP	9
830.6317	Storage stability	R	MP	EP	--
830.6319	Miscibility	CR	MP	EP	10
830.6320	Corrosion characteristics	R	MP	EP	--

TABLE—EUP BIOCHEMICAL PESTICIDES PRODUCT CHEMISTRY DATA REQUIREMENTS—Continued

Guideline Number	Data Requirement	All Use Patterns	Test Substance		Test Notes
			MP	EP	
830.7000	pH	CR	TGAI and MP	TGAI and EP	8, 11
830.7050	UV/Visible light absorption	R	TGAI	TGAI	--
830.7100	Viscosity	CR	MP	EP	12
830.7200	Melting point/melting range	CR	TGAI	TGAI	8, 13
830.7220	Boiling point/boiling range	CR	TGAI	TGAI	8, 14
830.7300	Density/relative density/bulk density	R	TGAI and MP	TGAI and EP	8, 18
830.7520	Particle size, fiber length, and diameter distribution	CR	TGAI	TGAI	8, 15
830.7550 830.7560 830.7570	Partition coefficient (n-Octanol /Water)	CR	TGAI	TGAI	16
830.7840	Water solubility	R	TGAI	TGAI	8
830.7950	Vapor pressure	R	TGAI	TGAI	8, 19

(e) *Test notes.* The following test notes are applicable to the data requirements for experimental use permit biochemical pesticides product chemistry and are referenced in the last column of the table in paragraph (d) of this section.

1. Data must be provided in accordance with § 158.320.
2. If the MP and EP are produced by an integrated formulation system (non-registered source), these data are also required on TGAI.
3. Data must be provided in accordance with § 158.325, § 158.330, and § 158.335.
4. Data must be provided in accordance with § 158.340.
5. Data must be provided in accordance with § 158.345. Also, required to support the registration of each manufacturing-use product (including registered TGAIs) and end-use products produced by an integrated formulation system. Data on other end-use products would be required on a case-by-case basis. For pesticides in the production stage, a preliminary product analytical method and data would suffice to support an experimental use permit.
6. Data must be provided in accordance with § 158.350.
7. Data must be provided in accordance with § 158.355.
8. If the TGAI cannot be isolated, data are required on the practical equivalent of the TGAI. EP testing may also be appropriate.
9. Required if the product contains combustible liquids.
10. Required if the product is an emulsifiable liquid and is to be diluted with petroleum solvents.
11. Required if the test substance is soluble or dispersible in water.
12. Required if the product is a liquid.
13. Required when the technical chemical is a solid at room temperature.
14. Required when the technical chemical is a liquid at room temperature.
15. Required for water insoluble test substances (>10^{-6}g/l) and fibrous test substances with diameter ≥0.1 μm.
16. Required for organic chemicals unless they dissociate in water or are partially or completely soluble in water.
17. Data on the stability to metals and metal ions is required only if the active ingredient is expected to come in contact with either material during storage.
18. True density or specific density are required for all test substances. Data on bulk density is required for MPs or EPs that are solid at room temperature.
19. Not required for salts.

§ 158.2082 Experimental use permit biochemical pesticides residue data requirements table.

(a) *General.* Sections 158.100 through 158.130 describe how to use this table to determine the biochemical pesticides residue data requirements for a particular pesticide product and the substance that needs to be tested. These data requirements apply to all biochemical pesticides, i.e. naturally occurring insect repellents and attractants, semiochemicals (e.g., insect pheromones), natural and plant growth regulators. Notes that apply to an individual test and include specific conditions, qualifications, or exceptions to the designated test are listed in paragraph (e) of this section.

(b) *Use patterns.* (1) Data are required or conditionally required for all pesticides used in or on food and for residential outdoor uses where food crops are grown. Food use patterns include products classified under the general use patterns of terrestrial food crop use, terrestrial feed crop use, aquatic food crop use, greenhouse food crop use, and indoor food use. Data are also conditionally required for aquatic nonfood use if there is direct application to water that could subsequently result in exposure to food.

(2) Data are conditionally required for nonfood uses if pesticide residues may occur in food or feed as a result of the use. Data requirements for these nonfood uses would be determined on a case-by-case basis. For example, most products used in or near kitchens require residue data for risk assessment purposes even though tolerances may not be necessary in all cases.

(c) *Key.* R=Required; CR=Conditionally required; NR=Not required; MP=Manufacturing end-use product; EP=End-use product; TEP=Typical end-use product; TGAI=Technical grade of the active ingredient; Residue of concern=the active ingredient and its metabolites, degradates,and impurities of toxicological concern. All=All of the above. Specific conditions, qualifications, or exceptions to the designated test procedures appear in paragraph (e) of this section, and apply to the individual tests in the following table:

(d) *Data table.* The following table shows the data requirements for biochemical pesticides residue. The test notes are shown in paragraph (e) of this section.

TABLE—EUP BIOCHEMICAL PESTICIDES RESIDUE DATA REQUIREMENTS

Guideline Number	Data Requirement	Use Patterns				Test Substance	Test Notes
		Terrestrial	Aquatic	Greenhouse Food	Indoor Food		
		Food/Feed	Food				
Supporting Information							
860.1100	Chemical identity	CR	CR	CR	CR	TGAI	1, 2, 4
860.1200	Directions for use	CR	CR	CR	CR	--	1, 3, 4
Nature of Residue							
860.1300	Nature of the residue in plants	CR	CR	CR	CR	TGAI	1, 4, 5, 6
860.1300	Nature of the residue in livestock	CR	CR	CR	CR	TGAI or plant metabolite	1, 7, 8, 9, 13
Magnitude of the Residue							
860.1400	Potable water	NR	CR	NR	NR	TGAI	1, 11
860.1400	Fish	NR	CR	NR	NR	TGAI	1, 12
860.1400	Irrigated crops	NR	CR	NR	NR	TGAI	1, 13
860.1460	Food handling	NR	NR	NR	CR	TGAI	1, 14
860.1480	Meat/milk/poultry/eggs	CR	CR	CR	CR	TGAI or plant metabolites	1, 7, 8, 9
860.1500	Crop field trials	CR	CR	CR	CR	TEP	1, 3, 4
860.1520	Processed food/feed	CR	CR	CR	CR	TEP	1, 15
860.1540	Anticipated residues	CR	CR	CR	CR	Residue of concern	1, 9, 16
860.1550	Proposed tolerances	CR	CR	CR	CR	--	1, 17
860.1560	Reasonable grounds in support of the petition	CR	CR	CR	CR	--	1, 9
860.1650	Submittal of analytical reference standards	CR	CR	CR	CR	TGAI and residue of concern	9, 18

(e) *Test notes.* The following test notes are applicable to the data requirements for biochemical pesticides product chemistry and are referenced referenced in the last column of the table contained in paragraph (d) of this section.

1. Residue chemistry data requirements apply to biochemical pesticide products when Tier II or Tier III toxicology data are required, as specified for biochemical agents in the biochemical human health assessment data requirements, §158.2050.

2. The same chemical identity data are required for biochemical product chemistry data requirements,§158.2030 with an emphasis on impurities.

3. Required information includes crops to be treated, rate of application, number and timing of applications, preharvest intervals, and relevant restrictions.

4. Required for residential outdoor uses on food crops if the corresponding agricultural use is not approved or the residential use is expected to produce higher residues based on the label directions.

5. Required unless it is an arthropod pheromone applied at a rate less than or equal to 150 grams active ingredient per acre.

6. Required for indoor uses where the pesticide is applied directly to food, in order to determine metabolites and/or degradates. Not required when only indirect contact with food would occur (e.g., crack and crevice treatments).

7. Required when a pesticide is to be applied directly to livestock, to livestock premises, to livestock drinking water, or to crops used for livestock feed. If results from the plant metabolism study show differing metabolites in plants form those found in animals, an additional livestock metabolism study involving dosing with the plant metabolite(s) may also be required.

8. Livestock feeding studies are required whenever a pesticide residue is present in livestock feed or when direct application to livestock uses occurs.

9. Required if indoor use could result in pesticide residues in or on food or feed.

10. Data are required to determine whether FDA/USDA multiresidue methodology would detect and identify the pesticides and any metabolites.

11. Data are required whenever a pesticide may be applied directly to water, unless it can be demonstrated that the treated water would not be available for human or livestock consumption.

12. Data on fish are required for all pesticides applied directly to water inhabited, or which will be inhabited, by fish that may be caught or harvested for human consumption.

13. Data are required when a pesticide is to be applied directly to water that could be used for irrigation or to irrigation facilities such as irrigation ditches.

14. Data are required whenever a pesticide may be used in food/feed handling establishments.

15. Data on the nature and level of residue in processed food/feed are required when detectible residues could potentially concentrate on processing thus requiring the

establishment of a separate tolerance higher than that of the raw agricultural commodity.

16 Anticipated residue data are required when the assumption of tolerance level residues would result in predicted exposure at an unsafe level of exposure. Data, using single serving samples of a raw agricultural commodity, on the level or residue in food as consumed would be used to obtain a more precise estimate of potential dietary exposure. These data may also include washing, cooking, processing or degradation studies as well as market basket surveys for a more precise residue determination.

17. The proposed tolerance must reflect the maximum residue likely to occur in crops, in meat, milk, poultry, or eggs.

18. Required when a residue analytical method is required.

§ 158.2083 Experimental use permit biochemical pesticides human health assessment data requirements table.

(a) *General.* (1) Sections 158.100 through 158.130 describe how to use this table to determine the human health assessment data requirements for a particular biochemical pesticide product.

(2) The data in this section are not required for straight chain lepidopteran pheromones when applied up to a maximum use rate of 150 grams active ingredient/acre/year.

(b) *Use patterns.* (1) Food use patterns, in general, include products classified under the following general uses: terrestrial food crop use; terrestrial feed crop use; aquatic food crop use; greenhouse food crop use.

(2) Nonfood use patterns include products classified under the general use patterns of terrestrial nonfood crop use; aquatic nonfood residential use; aquatic nonfood outdoor use; aquatic nonfood industrial use; greenhouse nonfood crop use; forestry use; residential outdoor use; residential indoor use; indoor food use; indoor nonfood use; indoor medical use.

(c) *Key.* R=Required; CR=Conditionally required; NR=Not required; MP=Manufacturing-use product; EP=End-use product; TEP=Typical end-use product; TGAI=Technical grade of the active ingredient; Residue of concern=the active ingredient and its metabolites, degradates, and impurities of toxicological concern; All=All of the above. Specific conditions, qualifications, or exceptions to the designated test procedures appear in paragraph (e) of this section, and apply to the individual tests in the following table:

(d) *Table.* The following table shows the data requirements for experimental use permit biochemical pesticides human health assessment. The test notes are shown in paragraph (e) of this section.

TABLE—EUP BIOCHEMICAL PESTICIDES HUMAN HEALTH ASSESSMENT DATA REQUIREMENTS

Guideline Number	Data Requirement	Use Patterns		Test Substance		Test Notes
		Food	Nonfood	MP	EP	
Tier I						
Acute Testing						
870.1100	Acute oral toxicity - rat	R	R	TGAI and MP	TGAI and EP	1
870.1200	Acute dermal toxicity	R	R	TGAI and MP	TGAI and EP	1, 2
870.1300	Acute inhalation toxicity - rat	R	R	TGAI and MP	TGAI and EP	3
870.2400	Primary eye irritation - rabbit	R	R	TGAI and MP	TGAI and EP	2
870.2500	Primary dermal irritation	R	R	TGAI and MP	TGAI and EP	1, 2
none	Hypersensitivity incidents	R	R	All	All	4
Subchronic Testing						
870.3100	90-day oral (one species)	R	NR	TGAI	TGAI	--
Developmental Toxicity						
870.3700	Prenatal developmental - rat preferably	R	CR	TGAI	TGAI	5
Mutagenicity Testing						
870.5100	Bacterial reverse mutation test	R	CR	TGAI	TGAI	6
870.5300	*In vivo* mammalian cell assay	R	CR	TGAI	TGAI	6, 7
Tier II						
Developmental Toxicity						
870.3700	Prenatal developmental	CR	CR	TGAI	TGAI	5

(e) *Test notes.* The following test notes are applicable to the data requirements for experimental use permit biochemical pesticides human health assessment as referenced in the last column of the table in paragraph (d) of this section.

1. Required unless the test material is a gas or highly volatile (vapor pressure > 10^{-4}torr (mm/Hg)).

2. Required unless the test material is corrosive to skin or has pH <2 or >11.5.

3. Required when the pesticide, under conditions of use, would result in respirable material (e.g., gas, volatile substance or aerosol/particulate), unless it is a straight chain lepidopteran pheromone.

4. Hypersensitivity incidents must be reported as adverse effects data.

5. Required if the use of the product under widespread and commonly recognized practice may reasonably be expected to result in significant exposure to female humans (e.g., occupational exposure or repeated application of insect repellents directly to the skin). Tier II data is required on a different test species from Tier I data when developmental effects are observed in the first study and information on species-to-species extrapolation is needed.

6. Required to support nonfood uses if either:

i. The use is likely to result in significant human exposure; or

ii. The active ingredient (or its metabolites) is structurally related to a known mutagen or belongs to any chemical class of compounds containing a known mutagen.

Additional mutagenicity tests that may have been performed plus a complete reference list must also be submitted. Subsequent testing may be required based on the available evidence.

7. Choice of assay using either:

i. Mouse lymphoma L5178Y cells, thymidine kinase (tk) gene locus, maximizing assay conditions for small colony expression or detection;

ii. Chinese hamster ovary (CHO) or Chinese hamster lung fibroblast (V79) cells, hypoxanthine-guanine phosphoribosyl transferase (hgprt) gene locus, accompanied by an appropriate *in vivo* test for clastogenicity; or

iii. CHO cells strains AS52, xanthine-guanine phosphoribosyl transferase (xprt) gene locus.

§ 158.2084 Experimental use permit biochemical pesticides nontarget organisms and environmental fate data requirements table.

(a) *General.* (1) Sections 158.100 through 158.130 describe how to use this table to determine the terrestrial and aquatic nontarget organisms and fate data requirements for a particular biochemical pesticide product. Notes that apply to an individual test including specific conditions, qualifications, or exceptions to the designated test are listed in paragraph (e) of this section. In general, for all outdoor end-use products including turf, the following studies are required: one avian acute oral, one avian dietary, one acute freshwater fish, and one acute freshwater invertebrate study.

(2) The data in this section are not required for arthropod pheromones when applied at up to a maximum use rate of 150 grams active ingredient/acre/year except when the product is expected to be available to avian species (i.e., granular formulation).

(b) *Use patterns.* The terrestrial use pattern includes products classified under the general use patterns of terrestrial food crop, terrestrial feed crop, and terrestrial nonfood/nonfeed crop. The greenhouse use pattern includes products classified under the general use patterns of greenhouse food crop and greenhouse nonfood crop. The indoor use pattern includes products classified under the general use patterns of indoor food and nonfood use. The remaining terrestrial uses include forestry and residential outdoor use. Data are also required for the general use patterns of aquatic food and nonfood crop use.

(c) *Key.* R=Required; CR=Conditionally required; NR=Not required; MP=Manufacturing-use product; EP=End-use product; TEP=Typical end-use product; TGAI=Technical grade of the active ingredient; Residue of concern=the active ingredient and its metabolites, degradates, and impurities of toxicological concern; All=All of the above. Specific conditions, qualifications, or exceptions to the designated test procedures appear in paragraph (e) of this section, and apply to the individual tests in the following table:

(d) *Table.* The following table shows the data requirements for experimental use permit biochemical pesticides nontarget organisms and environmental fate. The test notes are shown in paragraph (e) of this section.

TABLE—EUP BIOCHEMICAL PESTICIDES NONTARGET ORGANISMS AND ENVIRONMENTAL FATE DATA REQUIREMENTS

Guideline Number	Data Requirement	Use Patterns					Test Substance	Test Notes
		Terrestrial	Aquatic	Greenhouse	Forestry, Residential Outdoor	Indoor		
		Food/Feed/Nonfood	Food/Nonfood	Food/Nonfood		Food/Nonfood		
Tier I								
Avian Testing								
850.2100	Avian acute oral toxicity	R	R	NR	R	NR	TGAI, EP	1, 2, 3
850.2200	Avian dietary toxicity	R	R	NR	R	NR	TGAI, EP	1, 2, 3
Aquatic Organism Testing								
850.1075	Fish acute toxicity, freshwater	R	R	NR	R	NR	TGAI, EP	2, 3, 4
850.1010	Aquatic invertebrate acute toxicity, freshwater	R	R	NR	R	NR	TGAI, EP	2, 4

(e) *Test notes*. The following test notes are applicable to the data requirements for experimental use permit biochemical pesticides nontarget organisms and environmental fate as referenced in the last column of the table contained in paragraph (d) of this section.

1. Required for the EP when any end-use formulation may contain other ingredients that may be toxic to nontarget organisms or to support arthropod pheromones that would be available to avian wildlife, (e.g., a granular product).

2. Not required for any use groups if the pesticide is highly volatile (estimated volatility >5 X 10^{-5}atm m^3/mol).

3. Preferred test species are: upland game, waterfowl, or passerine for avian acute oral toxicity studies; upland game or waterfowl for avian dietary studies; and coldwater fish for acute freshwater fish studies.

4. Required for the EP when the end-use formulation may contain other ingredients that may be toxic to nontarget organisms.

Subpart V—Microbial Pesticides

§ 158.2100 Microbial pesticides definition and applicability.

(a) This subpart applies to all living or dead microbial pesticides as described in paragraphs (b) and (c) of this section.

(b) *Definition*. *Microbial pesticide* is a microbial agent intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, that:

(1) Is a eucaryotic microorganism including, but not limited to, protozoa, algae, and fungi;

(2) Is a procaryotic microorganism, including, but not limited to, Eubacteria and Archaebacteria; or

(3) Is a parasitically replicating microscopic element, including, but not limited to, viruses.

(c) *Applicability*. (1) This part applies to microbial pesticides as specified in paragraphs (c)(2), (3) and (4) of this section.

(2) Each new isolate of a microbial pesticide is treated as a new strain and must be registered independently of any similar registered microbial pesticide strain and supported by data required in this subpart.

(3) Genetically modified microbial pesticides may be subject to additional data or information requirements on a case-by-case basis depending on the particular microbial agent and/or its parental strains, the proposed pesticide use pattern, and the manner and extent to which the organism has been genetically modified.

(4) Pest control organisms such as insect predators, nematodes, and macroscopic parasites are exempt from the requirements of FIFRA as authorized by section 25(b) of FIFRA and specified in § 152.20 (a) of this chapter.

§ 158.2110 Microbial pesticides data requirements.

(a) For all microbial pesticides. (1) The following § 158.2120 through § 158.2150 identify the data requirements that are required to support registration of microbial pesticides. The variations in the test conditions are identified within the test notes.

(2) Each data table includes ''use patterns'' under which the individual data are required, with variations including all use patterns, food and nonfood uses for terrestrial and aquatic applications, greenhouse, indoor, forestry, and residential outdoor applications under certain circumstances.

(3) The categories for each data requirement are ''R,'' which stands for required, and ''CR'' which stands for conditionally required. If a bracket appears around the ''R'' or ''CR,'' the data are required for both the registration and experimental use permit requests. Generally, ''R'' indicates that the data are more likely required than for those data requirements with ''CR.'' However, in each case, the regulatory text preceding the data table and the test notes following the data table must be used to determine whether the data requirement must be satisfied.

(4) Each table identifies the test substance that is required to be tested to satisfy the data requirement. Test substances may include: technical grade active ingredient (TGAI), manufacturing-use product (MP), end-use product (EP), typical end-use product (TEP), residue of concern, and pure active ingredient (PAI) or all of the above (All). Commas between the test substances (i.e., TGAI, EP) indicate that data may be required on the TGAI or EP or both depending on the conditions set forth in the test note. Data requirements which list two test substances (i.e., TGAI and EP) indicate that both are required to be tested. Data requirements that list only MP as the test substance apply to products containing solely the technical grade of the active ingredient and manufacturing-use products to which other ingredients have been intentionally added. Data requirements listing the EP as the test substance apply to any EP with an ingredient in the end-use formulation other than the active ingredient that is expected to enhance the toxicity of the product.

(b) Additional data requirements for genetically modified microbial pesticides. Additional requirements for genetically modified microbial pesticides may include but are not limited to: genetic engineering techniques used; the identity of the inserted or deleted gene segment (base sequence data or enzyme restriction map of the gene); information on the control region of the gene in question; a description of the ''new'' traits or characteristics that are intended to be expressed; tests to evaluate genetic stability and exchange; and selected Tier II environmental expression and toxicology tests.

§ 158.2120 Microbial pesticides product analysis data requirements table.

(a) *General*. Sections 158.100 through 158.130 describe how to use this table to determine the product analysis data requirements and the substance to be tested for a particular microbial pesticide. Specific conditions, qualifications, or exceptions to the designated test are identified in paragraph (d) of this section, and the test notes appear in paragraph (e) of this section.

(b) *Key*. R=Required; CR=Conditionally required; NR=Not required; MP=Manufacturing-use product; EP=End-use product; TEP=Typical end-use product; TGAI=Technical grade of the active ingredient; All=All of the above. Specific conditions, qualifications, or exceptions to the designated test procedures appear in paragraph (e) of this section, and apply to the individual tests in the following table:

(c) *Table*. The following table shows the data requirements for microbial pesticides product analysis. The test notes are shown in paragraph (d) of this section.

TABLE—MICROBIAL PESTICIDES PRODUCT ANALYSIS DATA REQUIREMENTS

Guideline Number	Data Requirement	All Use Patterns	Test Substance		Test Notes
			MP	EP	
Product Chemistry and Composition					
885.1100	Product Identity	R	MP	EP	--
885.1200	Manufacturing process	R	TGAI and MP	TGAI and EP	--
	Deposition of a sample in a nationally recognized culture collection	R	TGAI	TGAI	--
885.1300	Discussion of formation of unintentional ingredients	R	TGAI and MP	TGAI and EP	--
Analysis and Certified Limits					
885.1400	Analysis of samples	R	TGAI and MP	TGAI and EP	1
885.1500	Certification of limits	R	MP	EP	--
Physical and Chemical Characteristics					
830.6302	Color	R	TGAI	TGAI	--
830.6303	Physical state	R	TGAI	TGAI	--
830.6304	Odor	R	TGAI	TGAI	--
830.6313	Stability to normal and elevated temperatures, metals and metal ions	R	TGAI	TGAI	--
830.6317	Storage stability	R	TGAI and MP	TGAI and EP	--
830.6319	Miscibility	R	MP	EP	2
830.6320	Corrosion Characteristics	R	MP	EP	3
830.7000	pH	R	TGAI	TGAI	--
830.7100	Viscosity	R	MP	EP	4
830.7300	Density/relative density/bulk density (specific gravity)	R	TGAI	TGAI	--

(d) *Test notes.* The following test notes are applicable to the data requirements for microbial pesticides product analysis as referenced in the last column of the table contained in paragraph (c) of this section.

1. Required to support registration of each manufacturing-use product and end-use product. This analysis must be conducted at the point in the production process after which there would be no potential for microbial contamination or microbial regrowth. For full registration, generally an analysis of samples is a compilation of batches, over a period of time, depending on the frequency of manufacturing.

2. Only required for emulsifiable liquid forms of microbial pesticides.

3. Required when microbial pesticides are packaged in metal, plastic, or paper containers.

4. Only required for liquid forms of microbial pesticides.

§ 158.2130 Microbial pesticides residue data requirements table.

(a) *General.* Sections 158.100 through 158.130 describe how to use this table to determine the residue chemistry data requirements and the substance to be tested for a particular microbial pesticide. Specific conditions, qualifications, or exceptions to the designated test appear in paragraph (d) of this section, and the procedures appear in paragraph (e) of this section.

(b) *Key.* R=required; CR=Conditionally required; NR=Not required; MP=Manufacturing-use product; EP=End-use product; TEP=Typical end-use product; TGAI=Technical grade of the active ingredient; All=All of the above. Specific conditions, qualifications, or exceptions to the designated test procedures appear in paragraph (d) of this section, and apply to the individual tests in the following table:

(c) *Table.* The following table shows the data requirements for microbial pesticides residue. The test notes are shown in paragraph (d) of this section.

TABLE—MICROBIAL PESTICIDES RESIDUE DATA REQUIREMENTS

Guideline Number	Data Requirement	All Use Patterns	Test Substance Data to Support MP or EP	Test Notes
885.2100	Chemical Identity	CR	EP	1
885.2200	Nature of the Residue in plants	CR	EP	1
885.2250	Nature of the Residue in animals	CR	EP	1
885.2300	Analytical methods - plants	CR	TGAI	1
885.2350	Analytical methods - animals	CR	TGAI	1
885.2400	Storage Stability	CR	EP	1
885.2500	Magnitude of residue in plants	CR	EP	1
885.2550	Magnitude of residues in meat, milk, poultry, eggs	CR	EP	1
885.2600	Magnitude of residues in potable water, fish, and irrigated crops	CR	EP	1

(d) *Test notes*. The following test note is applicable to the data requirements for microbial pesticides residue as referenced in the last column of the table contained in paragraph (c) of this section.

1. Required when the results of testing:

i. Indicate the potential to cause adverse human health effects or the product characterization indicates the microbial pesticide has a significant potential to produce a mammalian toxin; and

ii. The use pattern is such that residues may be present in or on food or feed crops.

§ 158.2140 Microbial pesticides toxicology data requirements table.

(a) *General*. Sections 158.100 through 158.130 describe how to use this table to determine the toxicology data requirements for a particular pesticide product. Notes that apply to an individual test and include specific conditions, qualifications, or exceptions to the designated test are listed in paragraph (d) of this section.

(b) *Key*. R=Required; CR=Conditionally required; NR=Not required; MP=Manufacturing-use product; EP=End-use product; TEP=Typical end-use product; TGAI=Technical grade of the active ingredient; All=All of the above. Specific conditions, qualifications, or exceptions to the designated test procedures appear in paragraph (d) of this section, and apply to the individual tests in the following table:

(c) *Table*. The following table shows the data requirements for microbial pesticides toxicology. The test notes are shown in paragraph (d) of this section.

TABLE—MICROBIAL PESTICIDES TOXICOLOGY DATA REQUIREMENTS

Guideline Number	Data Requirement	All Use Patterns	Test Substance	Test Notes
Tier I				
885.3050	Acute oral toxicity/pathogenicity	R	TGAI	1
885.3150	Acute pulmonary toxicity/pathogenicity	R	TGAI	--
885.3200	Acute injection toxicity/pathogenicity/(intravenous) Acute injectiont toxicity/pathogenicity/(intraperitoneal)	R	TGAI	2
885.3400	Hypersensitivity incidents	R	All	3
885.3500	Cell culture	R	TGAI	4
870.1100	Acute oral toxicity	R	MP , EP	1, 5
870.1200	Acute dermal toxicity	R	MP , EP	5
870.1300	Acute inhalation toxicity	R	MP , EP	5, 6
870.2400	Acute eye irritation	R	MP , EP	5
870.2500	Primary dermal irritation	R	MP , EP	5
Tier II				
885.3550	Acute toxicology	CR	TGAI	7
885.3600	Subchronic toxicity/pathogenicity	CR	TGAI	8

TABLE—MICROBIAL PESTICIDES TOXICOLOGY DATA REQUIREMENTS—Continued

Guideline Number	Data Requirement	All Use Patterns	Test Substance	Test Notes
Tier III				
885.3650	Reproductive fertility effects	CR	TGAI	9, 13
870.4200	Carcinogenicity	CR	TGAI	10, 13
870.7800	Immunotoxicity	CR	TGAI	11, 13
885.3000	Infectivity/pathogenicity analysis	CR	TGAI	12, 13

(d) *Test notes.* The following test notes are applicable to the data requirements for microbial pesticides toxicology as referenced in the last column of the table contained in paragraph (c) of this section:

1. The acute oral toxicity/pathogenicity study is required to support the TGAI. However, it can be combined with the unit dose portion of the acute oral toxicity study, with an EP or MP test material to fulfill the requirement for the TGAI and the MP or EP in a single study, if the new protocol is designed to address the endpoints of concern.

2. Data not required for products whose active ingredient is a virus. For test materials whose size or consistency may prevent use of an intravenous injection, the intraperitoneal injection procedure may be employed.

3. Hypersensitivity incidents, including immediate type and delayed-type reactions of humans or domestic animals, occur during the testing or production of the TGAI, MP, or EP, or are otherwise known to the applicant must be reported if they occur.

4. Data must be submitted only for products whose active ingredient is a virus.

5. The 870 series studies for the MP and EP are intended to provide data on the acute toxicity of the product. Waivers for any or all of these studies may be granted when the applicant can demonstrate that the combination of inert ingredients is not likely to pose any significant human health risks. Where appropriate, the limit dose approach to testing is recommended.

6. Required when the product consists of, or under conditions of use would result in, an inhalable material (e.g., gas, volatile substances, or aerosol particulate).

7. Data required when significant toxicity, in the absence of pathogenicity and significant infectivity, is observed in acute oral, injection, or pulmonary studies (Tier I). Route(s) of exposure correspond to route(s) where toxicity was observed in Tier I studies. The toxic component of the TGAI is to be tested.

8. Data required when significant infectivity and/or unusual persistence is observed in the absence of pathogenicity or toxicity in Tier I studies. Routes of exposure (oral and/or pulmonary) correspond to routes in Tier I studies where adverse effects were noted. Data may also be required to evaluate adverse effects due to microbial contaminants or to toxic byproducts.

9. Data are required when one or more of the following criteria are met:

i. Significant infectivity of the microbial pest control agent (MPCA) was observed in test animals in the Tier II subchronic study and in which no significant signs of toxicity or pathogenicity were observed.

ii. The microbial pesticide is a virus which can persist or replicate in mammalian cell culture lines.

iii. The microbial pesticide is not amenable to thorough taxonomic classification, and is related to organisms known to be parasitic for mammalian cells.

iv. The microbial pesticide preparation is not well purified, and may contain contaminants which are parasitic for mammals.

10. Data may be required for products known to contain or suspected to contain carcinogenic viruses or for microbial components that are identified as having significant toxicity in Tier II testing.

11. Data may be required for products known to contain or suspected to contain viruses that can interact in an adverse manner with components of the mammalian immune system.

12. An analysis of human infectivity/pathogenicity potential using scientific literature, genomic analysis, and/or actual specific cell culture/animal data may be required for products known to contain or suspected of containing intracellular parasites of mammalian cells for products that exhibit pathogenic characteristics in Tier I and/or Tier II, for products which are closely related to known human pathogens based on the product analysis data, or for known human pathogens that have been ''disarmed'' or rendered non-pathogenic for humans.

13. Test standards may have to be modified depending on the characteristics of the microorganism. Requirements may vary for these studies depending on the active ingredient being tested. Consultation with the Agency is advised before performing these Tier III studies.

§ 158.2150 Microbial pesticides nontarget organisms and environmental fate data requirements table.

(a) *General.* Sections 158.100 through 158.130 describe how to use this table to determine the terrestrial and aquatic nontarget organisms data requirements for a particular microbial pesticide product. Notes that apply to an individual test including specific conditions, qualifications, or exceptions to the designated test are listed in paragraph (e) of this section.

(b) *Use patterns.* Aquatic uses include: food and feed, nonfood uses (e.g., outdoor, residential, and industrial). Terrestrial uses include: Food, Feed, Non-Food, Forestry, Residential outdoor, greenhouse (food and food), Indoor (food and nonfood), and Industrial.

(c) *Key.* R=Required; CR=Conditionally required; NR=Not required; MP=Manufacturing-use product; EP=End-use product; TEP=Typical end-use product; TGAI=Technical grade of the active ingredient; All=All of the above. Specific conditions, qualifications, or exceptions to the designated test procedures appear in paragraph (e) of this section, and apply to the individual tests in the following table:

(d) *Table.* The following table shows the data requirements for microbial pesticides nontarget organisms and environmental fate. The test notes are shown in paragraph (e) of this section.

TABLE—MICROBIAL PESTICIDES NONTARGET ORGANISMS AND ENVIRONMENTAL FATE DATA REQUIREMENTS

Guideline Number	Data Requirement	Use Patterns								Test Substance	Test Notes
		Aquatic		Terrestrial							
		Food/ Feed	Nonfood	Food/ Feed/ Nonfood	Forestry	Residential Outdoor	Greenhouse Food/ Nonfood	Indoor Food/ Nonfood	Industrial		
Tier I											
885.4050	Avian oral toxicity	R	R	R	R	R	CR	CR	CR	TGAI	1, 2
885.4100	Avian inhalation toxicity/ pathogenicity	CR	CR	CR	CR	CR	CR	CR	CR	TGAI	1, 2, 3
885.4150	Wild mammal toxicity/ pathogenicity	CR	CR	CR	CR	CR	NR	NR	CR	TGAI	1, 4
885.4200	Freshwater fish toxicity/ pathogenicity	R	R	R	R	CR	CR	CR	CR	TGAI or TEP	1, 2, 5
885.4240	Freshwater invertebrate toxicity/ pathogenicity	R	R	R	R	CR	CR	CR	CR	TGAI or TEP	1, 2, 5
885.4280	Estuarine/Marine fish testing Estuarine and marine invertebrate testing	CR	CR	CR	CR	CR	NR	NR	CR	TGAI	1, 6
885.4300	Nontarget plant testing	CR	CR	CR	R	CR	NR	CR	CR	TEP	1, 7
885.4340	Nontarget insect testing	R	R	R	R	R	CR	NR	CR	TGAI	1, 8
885.4380	Honey bee testing	R	R	R	R	R	CR	NR	CR	TGAI	1
Tier II											
885.5200	Terrestrial environmental expression tests	CR	CR	CR	CR	CR	NR	NR	CR	TGAI or TEP	9
885.5300	Freshwater environmental expression tests	CR	CR	CR	CR	CR	NR	NR	CR	TGAI or TEP	10
885.5400	Marine or estuarine environmental expression tests	CR	CR	CR	CR	CR	NR	NR	CR	TGAI or TEP	11, 12
Tier III											
885.4600	Avian chronic pathogenicity and reproduction test	CR	CR	CR	CR	CR	NR	NR	CR	TGAI	12, 13
885.4650	Aquatic invertebrate range testing	CR	CR	CR	CR	CR	NR	NR	CR	TGAI	12, 14
885.4700	Fish life cycle studies	CR	CR	CR	CR	CR	NR	NR	CR	TGAI	12, 14
885.4750	Aquatic ecosystem test	CR	CR	CR	CR	CR	NR	NR	CR	TGAI	15
Tier IV											
850.2500 850.1950	Field testing for terrestrial wildlife and Field testing for aquatic organisms	CR	CR	CR	CR	CR	NR	NR	CR	TGAI or TEP	11, 16
850.2500	Simulated or actual field tests (birds, mammals)	CR	CR	CR	CR	CR	NR	NR	CR	TEP	16, 17, 20

TABLE—MICROBIAL PESTICIDES NONTARGET ORGANISMS AND ENVIRONMENTAL FATE DATA REQUIREMENTS—Continued

Guideline Number	Data Requirement	Use Patterns								Test Substance	Test Notes
		Aquatic		Terrestrial							
		Food/ Feed	Nonfood	Food/ Feed/ Nonfood	Forestry	Residential Outdoor	Greenhouse Food/ Nonfood	Indoor Food/ Nonfood	Industrial		
850.1950	Simulated or actual field test (aquatic organisms)	CR	CR	CR	CR	CR	NR	NR	CR	TEP	16, 18, 19, 20
850.2500	Simulated or actual field tests (insect predators, parasites)	CR	CR	CR	CR	CR	NR	NR	CR	TEP	16, 18, 19, 20
850.3040	Simulated or actual field tests (insect pollinators)	CR	CR	CR	CR	CR	NR	NR	CR	TEP	16, 18, 19, 20
850.4300	Simulated or actual field tests (plants)	CR	CR	CR	CR	CR	NR	NR	CR	TEP	16, 18, 19, 20

(e) *Test notes.* The following test notes are applicable to the data requirements for microbial pesticides nontarget organism and environmental fate as referenced in the last column of the table contained in paragraph (d) of this section.

1. Tests for pesticides intended solely for indoor application would be required on a case-by-case basis, depending on use pattern, production volume, and other pertinent factors.

2. The preferred species for the avian oral study is either the upland game or waterfowl. The preferred species for the avian inhalation toxicity/pathogenicity study and the avian chronic toxicity/pathogenicity study is the upland game. There is also the option to test the passerine if there is a concern. The coldwater fish is preferred for freshwater fish testing. However, two species (coldwater and warmwater fish species are the preferred species) must be tested for uses involving direct freshwater exposure. Freshwater invertebrate testing is also required.

3. Data required when the nature of the microbial pesticide and/or its toxins indicates potential pathogenicity to birds.

4. Required on a case-by-case basis if results of tests required by § 158.2140 are inadequate or inappropriate for assessment of hazards to wild mammals.

5. Required when there will be significant exposure to aquatic organisms (fish and invertebrates).

6. Required if the 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.

7. Required if the microbial pesticide is taxonomically related to a known plant pathogen.

8. Data are not required unless an active microbial ingredient controls the target insect pest by a mechanism of infectivity; i.e. may create an epizootic condition in nontarget insects.

9. Required if toxic or pathogenic effects are observed in one or more of the following tests for microbial pesticides:

i. Avian acute oral or avian inhalation studies.

ii. Wild mammal studies.

iii. Nontarget plant studies (terrestrial).

iv. Honey bee studies.

v. Nontarget insect studies.

10. Required when toxic or pathogenic effects are observed in any of the following Tier I tests for microbial pest control agents:

i. Freshwater fish studies.

ii. Freshwater invertebrate studies.

iii. Nontarget plant studies (aquatic).

11. Required if product is applied on land or in fresh water or marine/estuarine environments and toxic or pathogenic effects are observed in any of the following Tier I tests for microbial pesticides:

i. Estuarine and marine animal toxicity and pathogenicity.

ii. Plant studies - estuarine or marine species.

12. An appropriate dose-response toxicity test is required when toxic effects on nontarget terrestrial wildlife or aquatic organisms (including plants) 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. The protocols for these tests may have to be modified in accordance with results from the nontarget organism and environmental expression studies.

13. Required when one or more of the following are present:

i. Pathogenic effects are observed in Tier I avian studies.

ii. Tier II environmental expression testing indicate that long-term exposure of terrestrial animals is likely.

14. 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 aquatic studies.

15. Required if, after an analysis of the microbial pesticide's ability to survive and multiply in the environment and what ecological habitat it would occupy, the intended use patterns, and the results of previous nontarget organisms 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. Testing is to determine if applications of the microbial pest control would be expected to disrupt the balance of populations in the target ecosystem.

16. Tier IV studies may be conducted as a condition of registration as post-registration monitoring if the potential for unreasonable adverse effects appears to be minimal during that period of use due to implementation of mitigation measures.

17. Required when both of the following conditions occur:

i. Pathogenic effects observed at actual or expected field residue exposure levels are reported in Tier III; and

ii. The Agency determines that quarantine methods would not prevent the microbial pesticide from contaminating areas adjacent to the test area.

18. 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.

19. 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 that adverse long-term, cumulative, or life-cycle effects may result from intended use.

20. Since test standards would be developed on a case-by-case basis, consultation with the Agency and development of a protocol is advised before performing these Tier IV studies.

§ 158.2160 Microbial pesticides product performance data requirements.

Product performance data must be developed for all microbial pesticides. However, the Agency has waived all requirements to submit efficacy data unless the pesticide product bears a claim to control public health pests, such as pest microorganisms infectious to man in any area of the inanimate environment or a claim to control vertebrates (including but not limited to: rodents, birds, bats, canids, and skunks) or invertebrates (including but not limited to: mosquitoes and ticks) that may directly or indirectly transmit diseases to humans. However, each registrant must ensure through testing that his products are efficacious when used in accordance with label directions and commonly accepted pest control practices. The Agency reserves the right to require, on a case-by-case basis, submission of efficacy data for any pesticide product registered or proposed for registration.

§ 158.2170 Experimental use permit data requirements—microbial pesticides.

(a) For all microbial pesticides. (1) The following § 158.2171 through § 158.2174 identify the data requirements that are required to support experimental use permits for microbial pesticides. The variations in the test conditions are identified within the test notes.

(2) For general information on the data requirement tables, see § 158.2110(a)(2)-(4).

(b) Additional data requirements for genetically modified microbial pesticides. Additional requirements for genetically modified microbial pesticides may include but are not limited to: genetic engineering techniques used; the identity of the inserted or deleted gene segment (base sequence data or enzyme restriction map of the gene); information on the control region of the gene in question; a description of the ''new'' traits or characteristics that are intended to be expressed; tests to evaluate genetic stability and exchange; and selected Tier II environmental expression and toxicology tests.

§ 158.2171 Experimental use permit microbial pesticides product analysis data requirements table.

(a) *General.* Sections 158.100 through 158.130 describe how to use this table to determine the product analysis data requirements and the substance to be tested for a particular microbial pesticide. Specific conditions, qualifications, or exceptions to the designated test are identified in (d) of this section, and the test notes appear in paragraph (e) of this section.

(b) *Key.* R=Required; CR=Conditionally required; NR=Not required; MP=Manufacturing-use product; EP=End-use product; TEP=Typical end-use product; TGAI=Technical grade of the active ingredient; All=All of the above. Specific conditions, qualifications, or exceptions to the designated test procedures appear in paragraph (e) of this section, and apply to the individual tests in the following table:

(c) *Table.* The following table shows the data requirements for experimental use permit microbial pesticides product analysis. The test notes are shown in paragraph (d) of this section.

TABLE—EUP MICROBIAL PRODUCT ANALYSIS DATA REQUIREMENTS

Guideline Number	Data Requirement	All Use Patterns	Test Substance		Test Notes
			MP	EP	
Product Chemistry and Composition					
885.1100	Product Identity	R	MP	EP	--
885.1200	Manufacturing process	R	TGAI and MP	TGAI and EP	1, 2
885.1300	Deposition of a sample in a nationally recognized culture collection	R	TGAI	TGAI	--
	Discussion of formation of unintentional ingredients	R	TGAI and MP	TGAI and EP	2
Analysis and Certified Limits					
885.1400	Analysis of samples	R	TGAI and MP	TGAI and EP	2, 3
885.1500	Certification of limits	R	MP	EP	--
Physical and Chemical Characteristics					
830.6302	Color	R	TGAI	TGAI	--
830.6303	Physical state	R	TGAI	TGAI	--
830.6304	Odor	R	TGAI	TGAI	--
830.6313	Stability to normal and elevated temperatures, metals and metal ions	R	TGAI	TGAI	--
830.6317	Storage stability	R	TGAI and MP	TGAI and EP	--
830.6319	Miscibility	R	MP	EP	4

TABLE—EUP MICROBIAL PRODUCT ANALYSIS DATA REQUIREMENTS—Continued

Guideline Number	Data Requirement	All Use Patterns	Test Substance		Test Notes
			MP	EP	
830.6320	Corrosion Characteristics	R	MP	EP	5
830.7000	pH	R	TGAI	TGAI	--
830.7100	Viscosity	R	MP	EP	6
830.7300	Density/relative density/bulk density (specific gravity)	R	TGAI	TGAI	--

(d) *Test notes.* The following test notes are applicable to the data requirements for experimental use permit microbial pesticides product analysis as referenced in the last column of the table contained in paragraph (c) of this section.

1. If an experimental use permit is being sought, and if the pesticide is not already under full-scale production, a schematic diagram and/or description of the manufacturing process suffices.

2. If an experimental use permit is being sought, and if the product is not already under full-scale production, a discussion of unintentional ingredients is required to be submitted to the extent this information is available.

3. Required to support registration of each manufacturing-use product and end-use product. This analysis must be conducted at the point in the production process after which there would be no potential for microbial contamination or microbial regrowth. For pesticides in the production stage, a preliminary product analytical method and data would suffice to support an experimental use permit. For full registration, generally an analysis of samples is a compilation of batches, over a period of time, depending on the frequency of manufacturing.

4. Only required for emulsifiable liquid forms of microbial pesticides.

5. Required when microbial pesticides are packaged in metal, plastic, or paper containers.

6. Only required for liquid forms of microbial pesticides.

§ 158.2172 Experimental use permit microbial pesticides residue data requirements table.

(a) *General.* Sections 158.100 through 158.130 describe how to use this table to determine the residue chemistry data requirements and the substance to be tested for a particular microbial pesticide. Specific conditions, qualifications, or exceptions to the designated test appear in (d) of this section, and the procedures appear in paragraph (e) of this section.

(b) *Key.* R=Required; CR=Conditionally required; NR=Not required; MP=Manufacturing-use product; EP=End-use product; TEP=Typical end-use product; TGAI=Technical grade of the active ingredient; All=All of the above. Specific conditions, qualifications, or exceptions to the designated test procedures appear in paragraph (d) of this section, and apply to the individual tests in the following table:

(c) *Table.* The following table shows the data requirements for experimental use permit microbial pesticides residue. The test notes are shown in paragraph (d) of this section.

TABLE—EUP MICROBIAL PESTICIDES RESIDUE DATA REQUIREMENTS

Guideline Number	Data Requirement	All Use Patterns	Test Substance Data to Support MP or EP	Test Notes
885.2100	Chemical Identity	CR	EP	1
885.2200	Nature of the Residue in plants	CR	EP	1
885.2250	Nature of the Residue in animals	CR	EP	1
885.2300	Analytical methods - plants	CR	TGAI	1
885.2350	Analytical methods-animals	CR	TGAI	1
885.2400	Storage Stability	CR	EP	1
885.2500	Magnitude of residue in plants	CR	EP	1
885.2550	Magnitude of residues in meat, milk, poultry, eggs	CR	EP	1
885.2600	Magnitude of residues in potable water, fish, and irrigated crops	CR	EP	1

(d) *Test notes.* The following test note is applicable to the data requirements for experimental use permit microbial pesticides residue as referenced in the last column of the table contained in paragraph (c) of this section.

1. Required when the results of testing:

i. Indicate the potential to cause adverse human health effects or the product characterization indicates the microbial pesticide has a significant potential to produce a mammalian toxin; and

ii. The use pattern is such that residues may be present in or on food or feed crops.

§ 158.2173 Experimental use permit microbial pesticides toxicology data requirements table.

(a) *General.* Sections 158.100 through 158.130 describe how to use this table to determine the toxicology data requirements for a particular microbial pesticide product. Notes that apply to

an individual test and include specific conditions, qualifications, or exceptions to the designated test are listed in paragraph (d) of this section.

(b) *Key*. R=Required; CR=Conditionally required; NR=Not required; MP=Manufacturing-use product; EP=End-use product; TEP=Typical end-use product; TGAI=Technical grade of the active ingredient; All=All of the above. Specific conditions, qualifications, or exceptions to the designated test procedures appear in paragraph (d) of this section, and apply to the individual tests in the following table:

(c) *Table*. The following table shows the data requirements for microbial pesticide toxicology. The test notes are shown in paragraph (d) of this section.

TABLE—EUP MICROBIAL PESTICIDES TOXICOLOGY DATA REQUIREMENTS

Guideline Number	Data Requirement	All Use Patterns	Test Substance	Test Notes
885.3050	Acute oral toxicity/pathogenicity	R	TGAI	1
885.3150	Acute pulmonary toxicity/pathogenicity	R	TGAI	--
885.3200	Acute injection toxicity/pathogenicity/(intravenous) Acute injection toxicity/pathogenicity/(intraperitoneal)	R	TGAI	2
885.3400	Hypersensitivity incidents	R	All	3
885.3500	Cell culture	R	TGAI	4
870.1100	Acute oral toxicity	R	MP, EP	1, 5
870.1200	Acute dermal toxicity	R	MP, EP	5
870.1300	Acute inhalation toxicity	R	MP, EP	5, 6
870.2400	Acute eye irritation	R	MP, EP	5
870.2500	Primary dermal irritation	CR	MP, EP	5

(d) *Test notes*. The following test notes are applicable to the data requirements for experimental use permit microbial pesticides toxicology as referenced in the last column of the table contained in paragraph (c) of this section:

1. The acute oral toxicity/pathogenicity study is required to support the TGAI. However, it can be combined with the unit dose portion of the acute oral toxicity study, with an EP or MP test material to fulfill the requirement for the TGAI and the MP or EP in a single study, if the new protocol is designed to address the endpoints of concern.

2. Data not required for products whose active ingredient is a virus. For test materials whose size or consistency may prevent use of an intravenous injection, the intraperitoneal injection procedure may be employed.

3. Hypersensitivity incidents, including immediate type and delayed type reactions of humans or domestic animals occur during the testing or production of the TGAI, MP, or EP, or are otherwise known to the applicant must be reported if they occur.

4. Data must be submitted only for products whose active ingredient is a virus.

5. The 870 series studies for the MP and EP are intended to provide data on the acute toxicity of the product. Waivers for any or all of these studies may be granted when the applicant can demonstrate that the combination of inert ingredients is not likely to pose any significant human health risks. Where appropriate, the limit dose approach to testing is recommended.

6. Required when the product consists of, or under conditions of use that would result in an inhalable material (e.g., gas, volatile substances, or aerosol particulate).

§ 158.2174 Experimental use permit microbial pesticides nontarget organisms and environmental fate data requirements table.

(a) *General*. Sections 158.100 through 158.130 describe how to use this table to determine the terrestrial and aquatic nontarget organisms data requirements for a particular microbial pesticide product. Notes that apply to an individual test including specific conditions, qualifications, or exceptions to the designated test are listed in paragraph (e) of this section.

(b) *Use patterns*. Aquatic uses include: food and feed, nonfood uses (e.g., outdoor, residential, and industrial). Terrestrial uses include: Food, Feed, Non-Food, Forestry, Residential outdoor, greenhouse (food and food), Indoor (food and nonfood), and Industrial.

(c) *Key*. R=Required; CR=Conditionally required; NR=Not required; MP=Manufacturing-use product; EP=End-use product; TEP=Typical end-use product; TGAI=Technical grade of the active ingredient; All=All of the above. Specific conditions, qualifications, or exceptions to the designated test procedures appear in paragraph (e) of this section, and apply to the individual tests in the following table:

(d) *Table*. The following table shows the data requirements for experimental use permit microbial pesticides nontarget organisms and environmental fate. The test notes are shown in paragraph (e) of this section.

TABLE—EUP MICROBIAL PESTICIDES NONTARGET ORGANISMS AND ENVIRONMENTAL FATE DATA REQUIREMENTS

Guideline Number	Data Requirement	Use Patterns								Test Substance	Test Notes
		Aquatic		Terrestrial							
				Food/ Feed/ Nonfood	Forestry	Residential	Greenhouse	Indoor	Industrial		
		Food/ Feed	Nonfood			Outdoor	Food/ Nonfood	Food/ Nonfood			
885.4050	Avian oral toxicity	NR	R	R	R	R	NR	NR	NR	TGAI	1, 2
885.4200	Freshwater fish toxicity/ pathogenicity	NR	R	R	R	NR	NR	NR	NR	TGAI	1, 2, 3
885.4240	Freshwater invertebrate toxicity/pathogenicity	NR	R	R	R	NR	NR	NR	NR	TGAI	1, 2, 3
885.4300	Nontarget plant testing	NR	NR	NR	R	NR	NR	NR	NR	TEP	1, 4
885.4340	Nontarget insect testing	R	R	R	R	NR	NR	NR	NR	TGAI	1, 5
885.4380	Honey bee testing	R	R	R	R	NR	NR	NR	NR	TGAI	1

(e) *Test notes.* The following test notes are applicable to the data requirements for microbial pesticides nontarget organism and environmental fate as referenced in the last column of the table contained in paragraph (d) of this section.

1. Tests for pesticides intended solely for indoor application would be required on a case-by-case basis, depending on use pattern, production volume, and other pertinent factors. Tests to support EUP's are based on the application timing and acreage.

2. The preferred species for the avian oral study is either the upland game or waterfowl. The preferred species for the avian inhalation toxicity/pathogenicity study and the avian chronic toxicity/pathogenicity study is the upland game. There is also the option to test a passerine species if there is a concern. The coldwater fish is preferred for freshwater fish testing. However, two species (coldwater and warmwater fish are the preferred species) must be tested for uses involving direct freshwater exposure. Freshwater invertebrates are preferred for invertebrate testing.

3. Required when there will be significant exposure to aquatic organisms (fish and invertebrates).

4. Required if the microbial pesticide is taxonomically related to a known plant pathogen.

5. Data are not required unless an active microbial ingredient controls the target insect pest by a mechanism of infectivity; i.e. may create an epizootic condition in nontarget insects.

[FR Doc. E7–20828 Filed 10–25–07; 8:45 am]

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 152, 156, 159, 160, 168 and 172

[EPA–HQ–OPP–2004–0387; FRL–8114–1]

Pesticide Data Requirements; Technical Amendments

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This document makes technical changes and revises cross references in the Code of Federal Regulations (CFR) to reflect changes in pesticide data requirements being promulgated elsewhere in today's **Federal Register**. These technical changes are solely to conform other parts of the CFR to the new rules, and have no substantive impact on any requirements. This regulation is a technical amendment which requires no opportunity for comment or public participation.

DATES: This final rule is effective December 26, 2007.

ADDRESSES: EPA has established a docket for this action under docket identification (ID) number EPA–HQ–OPP–2004–0387. To access the electronic docket, go to *http://www.regulations.gov*, select ''Advanced Search,'' then ''Docket Search.'' Insert the docket ID number where indicated and select the ''Submit'' button. Follow the instructions on the regulations.gov web site to view the docket index or access available documents. All documents in the docket are listed in the docket index available in regulations.gov. Although listed in the index, some information is not publicly available, e.g., Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either in the electronic docket at *http://www.regulations.gov*, or, if only available in hard copy, at the OPP Public Docket, in Rm. S–4400, One Potomac Yard (South Building), 2777 S. Crystal Drive, Arlington, VA. The Docket Facility is open from 8:30 a.m. to 4 p.m., Monday through Friday, excluding legal holidays. The Docket telephone number is (703) 305–5805.

FOR FURTHER INFORMATION CONTACT: Jean Frane, Office of Pesticide Programs, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460–0001; telephone number: (703) 305–5944; fax number: (703) 305–5884; e-mail address: *frane.jean@epa.gov*.

SUPPLEMENTARY INFORMATION:

I. Does this Action Apply to Me

You may be potentially affected by this action if you are a producer or registrant of a pesticide product. This action may also affect any person or company who might petition the Agency for new tolerances, hold a pesticide registration with existing tolerances, or any person or company