

GUIDANCE TO REGISTRANTS: PROCESS FOR MAKING CLAIMS AGAINST EMERGING VIRAL PATHOGENS NOT ON EPA-REGISTERED DISINFECTANT LABELS

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I. Background and Purpose

Emerging pathogens are an increasing public health concern in the United States as well as globally. Many of the emerging pathogens of greatest concern are pathogenic viruses, and the ability of some of these viruses to persist on environmental surfaces can play a role in human disease transmission. Because the occurrence of emerging viral pathogens is less common and predictable than established pathogens, few, if any, EPA-registered disinfectant product labels specify use against this category of infectious agents. Also, the pathogens are often unavailable commercially and standard methods for laboratory testing may not have been developed. Thus, it can be difficult to assess the efficacy of EPA-registered disinfectants against such pathogens in a timely manner and to add these viruses to existing product registrations, which requires the submission of efficacy data for agency review. As a result, the agency is providing a voluntary, two-stage process to enable use of certain EPA-registered disinfectant products against emerging viral pathogens not identified on the product label.

1) In the first stage, which may be performed prior to any outbreak, registrants with an eligible disinfectant product may submit a request, via label amendment or during the registration of a new product, to control a specific emerging viral pathogen to add a designated statement (see Attachment 1) to the master label and additional terms to the product registration. If the product meets the eligibility criteria suggested in this Guidance, the agency generally will approve the amendment. Approval of the amendment would include additional terms and conditions of registration regarding how the designated statement may be published and communicated.

2) The second stage of this process occurs during a human or animal disease outbreak caused by an emerging virus. In this stage, registrants of products with the previously mentioned label amendment and terms of registration would be allowed to use the designated statement in off-label communications intended to inform the user community/public that the disinfectant product(s) may be used against the specific emerging viral pathogen. These off-label statements can inform the public about the utility

of these products against the emerging pathogen in the most expeditious manner and can be more easily removed once the outbreak has ended than statements on a label.

Note that this document provides general guidance to EPA, pesticide registrants, applicants for pesticide registrations, and the public. This guidance is not binding on EPA or any outside parties, and EPA may depart from the guidance where circumstances warrant and without prior notice.

II. Viral Subgroup Classification

EPA and the Centers for Disease Control and Prevention (CDC) recognize that certain microorganisms can be ranked with respect to their tolerance to chemical disinfectants. The Spaulding Classification model, used by CDC, tiers microorganisms in accordance with the level of resistance to being killed (inactivation) by typical disinfectant products.¹ With this approach viruses are divided into three viral subgroups (small non-enveloped, large non-enveloped, and enveloped) based on their relative resistance to inactivation (see below). According to this hierarchy, if an antimicrobial product can kill a small, non-enveloped virus it should be able to kill any large, non-enveloped virus or any enveloped virus. Similarly, a product that can kill a large, non-enveloped virus should be able to kill any enveloped virus.

Small, Non-Enveloped Viruses (<50 nm): These small, non-enveloped viruses can be highly resistant to inactivation by disinfection. Despite the lack of a lipid envelope, these organisms have a very resistant protein capsid. The following are viral families in the small non-enveloped subgroup: (1) Picornaviridae, (2) Parvoviridae, (3) Caliciviridae, (4) Astroviridae, and (5) Polyomaviridae.

Large, Non-Enveloped Viruses: Compared to small, non-enveloped viruses, these viruses are less resistant to inactivation by disinfection. Although they have a resistant protein capsid, their larger size (50-100nm) makes them more vulnerable than their smaller viral counterparts. The following are viral families in the large non-enveloped subgroup: (1) Adenoviridae, (2) Reoviridae, and (3) Papillomaviridae.

Enveloped Viruses: Enveloped viruses are the least resistant to inactivation by disinfection. The structure of these viruses includes a lipid envelope, which is easily compromised by most disinfectants. Once the lipid envelope is damaged, the integrity of the virus is compromised, thereby neutralizing its infectivity. The following are viral families in the enveloped subgroup: (1) Arenaviridae, (2) Bornaviridae, (3) Bunyaviridae, (4) Coronaviridae, (5) Filoviridae, (6) Flaviviridae, (7) Hepadnaviridae, (8) Herpesviridae, (9) Orthomyxoviridae, (10) Paramyxoviridae, (11) Poxviridae, (12) Retroviridae, (13) Rhabdoviridae, and (14) Togaviridae.

Under the criteria outlined in Section III of this Guidance, this hierarchy is used to determine a product's anticipated efficacy against an emerging viral pathogen.

III. Product Eligibility Criteria

Registrants should use the following criteria to determine if an EPA-registered disinfectant product is eligible to use the process described in this Guidance. An eligible product should meet both of the following criteria:

1. The product is an EPA-registered, hospital/healthcare or broad-spectrum disinfectant with directions for use on hard, porous or non-porous surfaces².
2. The currently accepted product label (from an EPA registered product as described above in III.1) should have disinfectant efficacy claims against at least one of the following viral pathogen groupings:
 - a) A product should be approved by EPA to inactivate at least one large or one small non-enveloped virus **to be eligible for use against an enveloped emerging viral pathogen.**
 - b) A product should be approved by EPA to inactivate at least one small, non-enveloped virus **to be eligible for use against a large, non-enveloped emerging viral pathogen.**
 - c) A product should be approved by EPA to inactivate at least two small, non-enveloped viruses with each from a different viral family **to be eligible for use against a small, non-enveloped emerging viral pathogen.**

This approach, where disinfectant products registered for use against viral pathogens in one category of the Spaulding Classification model can be presumed effective against viral pathogens in less-resistant categories, is intended to serve as a conservative approach to identifying disinfectant products likely to be effective against emerging pathogens. However, since there is no viral subgroup known to be more resistant than small, non-enveloped viral pathogens, a disinfectant product must be proven to be efficacious against at least two small, non-enveloped viral pathogens from different viral families in order to be eligible for emerging pathogen claims pursuant to this guidance in regard to an outbreak of an emerging small, non-enveloped viral pathogen.

IV. Instructions for Using the Process

The following are instructions for registrants (with a product eligible under Section III above) who wish to use the process in this document for making claims against emerging viral pathogens. Registrants are encouraged to submit either an FQPA (fast-track, non-PRIA) or a PRIA label amendment request explaining why the product meets the criteria for use against one or more categories of emerging [**enveloped / large non-enveloped / small non-enveloped**] viral pathogens as suggested in this guidance.

This application may be submitted at any time, including during the new product registration process, and should include a request to add to the Terms of Registration for the product a product-specific version of the language in Attachment 1, and include each of the conditions governing the use of such statements that appear in Attachment 1. If approved, the registrant will be authorized to make the product-specific version of the statement(s) described in Attachment 1 in the event of an applicable disease outbreak as

provided in this Guidance. The conditions stated in Attachment 1, which would be incorporated into the terms of registration, identify the allowable statements, the outlets through which the use statements may be communicated, and the time periods during which the use statements may be made. Use of the designated statements in circumstances other than those specified in the terms of registration would be a violation of FIFRA section 12(a)(1)(B), unless otherwise authorized by EPA.

V. Outbreak Criteria Associated with Emerging Pathogens Process

As stated above, the process described in this Guidance is for use with emerging pathogens associated with certain human or animal disease outbreaks. Thus, registrants whose registered master labels include the approved statements, either via label amendment or during the new registration process as described in Section IV above, may publish the approved statements only upon a disease outbreak that meets all the following criteria:

1. The causative organism should be a virus that causes an infectious disease that has appeared in a human or animal population for the first time, or that may have existed previously but is rapidly increasing in incidence or geographic range ("emerging viral pathogen").³ It includes both new and re-emerging viral pathogens listed by either the CDC or the World Organization for Animal Health (OIE) in one of the publications below.
 - a. For human disease, the outbreak is listed in one of the following CDC publications:
 - i. CDC Current Outbreak List for "U.S. Based Outbreaks" (www.cdc.gov/outbreaks),
 - ii. CDC Current Outbreak List for "Outbreaks Affecting International Travelers" with an "Alert" or "Advisory" classification (www.cdc.gov/outbreaks) (also released through the CDC's Health Alert Network (HAN) notification process)
 - iii. Healthcare-Associated Infections (HAIs) Outbreaks and Patient Notifications page (www.cdc.gov/hai/outbreaks)
 - b. For animal disease, the outbreak is identified as an infectious disease outbreak in animals within the United States of America on the OIE Weekly Disease Information page (www.oie.int/wahis_2/public/wahid.php/Diseaseinformation/WI).
2. The CDC or OIE has identified the taxonomy, including the viral family and/or species, of the pathogen and provides notice to the public of the identity of the emerging virus that is responsible for an infectious disease outbreak. Based on the taxonomy of the outbreak pathogen identified by the CDC or OIE, the pathogen's viral subgroup (small non-enveloped, large non-enveloped, enveloped) should be determined. See OIE technical disease cards ().
3. The virus can be transmitted via environmental surfaces (non-vector transmission), and environmental surface disinfection has been recommended by the CDC, OIE or EPA to control the spread of the pathogen.

An example of how both the application and outbreak process might work is presented in Attachment 2.

VI. References

¹ Spaulding E.H. 1968. Chemical disinfection of medical and surgical materials. Disinfection, Sterilization, & Preservation, 3rd Edition, Block S (Ed), (Lea & Febiger, Philadelphia, PA).

² [Product Performance Test Guidelines: OCSPP 810.2200 Disinfectants for Use on Hard Surfaces – Efficacy Data Recommendations \[EPA 712-C-07-074\]](#)

³ World Health Organization (WHO). 2015. Emerging Diseases. Available from: http://www.who.int/topics/emerging_diseases/en/

Attachment 1

Example Terms of Registration Associated with the Guidance for Making Claims against Emerging Viral Pathogens Not on EPA-Registered Disinfectant Labels

The following are examples of additional Terms of Registration that EPA anticipates resulting from a request to amend a registration for the reasons addressed in EPA's 2016 Guidance to Registrants: Process for Making Claims against Emerging Viral Pathogens Not on EPA-Registered Disinfectant Labels:

1. The statements shall be made only through the following communications outlets: technical literature distributed exclusively to health care facilities, physicians, nurses and public health officials, "1-800" consumer information services, social media sites and company websites (non-label related). These statements shall not appear on marketed (final print) product labels.

2. Statements shall adhere to one or both of the following formats:

[Product name] has demonstrated effectiveness against viruses similar to **[name of emerging virus]** on hard, **[porous and/or non-porous surfaces]**. Therefore, **[product name]** can be used against **[name of emerging virus]** when used in accordance with the directions for use against **[name of supporting virus(es)]** on **[hard, porous/non-porous surfaces]**. Refer to the **[CDC or OIE]** website at **[pathogen-specific website address]** for additional information.

[Name of illness/outbreak] is caused by **[name of emerging virus]**. **[Product name]** kills similar viruses and therefore can be used against **[name of emerging virus]** when used in accordance with the directions for use against **[name of supporting virus(es)]** on **[hard, porous/non-porous surfaces]**. Refer to the **[CDC or OIE]** website at **[website address]** for additional information.

3. The registrant may begin communicating these statement(s) upon notification on the CDC or OIE website identified under Section V of the Guidance of an outbreak of an emerging **[small non-enveloped, large non-enveloped, and/or enveloped]** viral pathogen. The registrant shall cease and remove all such non-label communications intended for consumers no later than 24 months after the original notification of the outbreak on the CDC or OIE website, unless the agency provides guidance to the contrary due to continued public health concerns. The emerging pathogen claim language may remain on the master label.

4. The registrant agrees that paragraphs 1 through 3 above shall become immediately void and ineffective if registration for use against **[name of supporting virus(es)]** is suspended or cancelled or no longer meets the criteria for a disinfectant claim (see EPA Product Performance Test Guideline 810.2200). In addition, evidence of ineffectiveness against any pathogen in a less-resistant Spaulding category would also be grounds for voiding paragraphs 1 through 3.

Attachment 2

Example of the Process

The following is a hypothetical scenario for how registrants and EPA could use the process identified in this Guidance, using an Enterovirus D68 outbreak as an example.

Before an outbreak occurs:

- Prior to the occurrence of an outbreak, registrants interested in using this process apply for registration amendments as suggested in this Guidance to allow claims of anticipated efficacy against small non-enveloped viruses. Once EPA has approved the amendments, the subject products' registrations will indicate that certain claims specified in the registration may be made regarding use against emerging small non-enveloped viral pathogens, subject to the products' Terms of Registration as described in Attachment 1. For example, a registrant whose product is registered for use against two small non-enveloped viral pathogens might request the following product-specific statement:

Product Z has demonstrated effectiveness against viruses similar to **[name of emerging virus]** on hard non-porous surfaces. Therefore this product can be used against **[name of emerging virus]** when used in accordance with the directions for use against Virus X and Virus Y on hard, non-porous surfaces. Refer to the **[CDC or OEI]** website at **[website address]** for additional information.

- EPA would review the claims and, if approved, add this statement to the product's master label as a non-label claim permitted only when certain emerging viral pathogen conditions are met.

After an outbreak occurs:

- In the event of an Enterovirus D68 public health outbreak, the Centers for Disease Control and Prevention would communicate the outbreak threat via its website (www.cdc.gov/outbreaks), identify the viral pathogen taxonomy, and indicate that surface disinfection is recommended.

1. With the viral pathogen information provided by CDC, registrants would determine that the pathogen, Enterovirus D68 (a member of the Picornaviridae family), is a small non-enveloped virus.

2. At this point, registrants with products whose registrations have been amended to allow certain claims of anticipated efficacy against two or more small non-enveloped viral pathogens from different viral families would be allowed to make those claims specified in the terms of registration as illustrated in Attachment 1 regarding use of the products against Enterovirus D68 without further submissions to, or review by, EPA. For example, a registrant whose registration was previously amended to include the product-specific language in the example above would now be allowed to include the following statement in technical literature distributed exclusively to health care facilities, physicians, nurses and public health officials, non-label related websites, consumer information services, and social media sites:

Product Z has demonstrated effectiveness against viruses similar to Enterovirus D68 on hard non-porous surfaces. Therefore, this product can be used against Enterovirus D68 when used in accordance with the directions for use against Virus X and Virus Y on hard, non-porous surfaces. Refer to the CDC website at [www.cdc.gov/...](http://www.cdc.gov/) for additional information.