UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

June 1, 2020

MEMORANDUM

SUBJECT: Statement Regarding Respiratory Protection Shortages and Reduced Availability of Respirator Fit Testing Related to Pesticide Uses Covered by the Agricultural Worker Protection Standard during the COVID-19 Public Health Emergency

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TO: Pesticide Lead Regulatory Agencies, Agricultural Handler Employers under the Worker Protection Standard, and Pesticide Handlers of Pesticide Products Bearing Respiratory Protection Requirements

I. Introduction

The EPA has received inquiries and concerns expressed by state and tribal co-regulators, cooperative extension pesticide safety educators, agricultural organizations, grantees and other stakeholders regarding the impacts the COVID-19 public health emergency has had on the availability of respiratory protection equipment and associated fit testing required under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) when applying pesticides in agricultural production. The public health emergency has created a significant increase in demand for respirators to protect healthcare workers. That increased demand, exacerbated by supply chain issues, has limited availability of respiratory protection options for users in the agricultural sector around the country. In addition, fit testing service closures, along with supply chain issues, have affected the availability of fit testing and the supply of chemicals required for respirator fit testing. These challenges have the potential to disrupt agricultural production related to the viability of our nation's food supply.[1] Agriculture has key dependencies on pesticides, and the chemicals are vital components to modern food production.[2]

In response and to support the EPA's goal to ensure the agricultural workforce is appropriately protected from pesticide exposure, the EPA is issuing this memorandum to provide temporary guidance for agricultural handler employers and pesticide handlers.[3] The EPA has developed this

[1] The Food and Agricultural and Chemical sectors are critical infrastructures, as designated by the Cybersecurity & Infrastructure Security Agency. See https://www.cisa.gov/critical-infrastructure-sectors.
[2] See the Chemical Sector-Specific Plan – 2015 at https://www.cisa.gov/publication/nipp-ssp-chemical-2015.
[3] Handler employer and handler are terms defined in 40 CFR § 170.305; handler means any person, including a self-employed person, who is employed by an agricultural employer or commercial pesticide handler employer and performs certain activities, including, but not limited to, mixing, loading and applying pesticides.

document with the goal of continuing to protect the health of pesticide handlers while acknowledging the challenges that handler employers and pesticide handlers may face with respect to personal protective equipment (PPE). Other federal agencies address how to protect the agricultural workforce from COVID-19 and the prioritization of PPE.[4] Section II outlines four compliance options for handler employers and pesticide handlers that EPA will deem to satisfy applicable regulatory requirements for the duration of the public health emergency. Section III provides additional information to consider when dealing with shortages of respiratory protection and fit testing services caused by the COVID-19 public health emergency. In order to provide fair and sufficient notice to the public, the EPA will post a notification at https://www.epa.gov/enforcement/covid-19-enforcement-and-compliance-resources and www.epa.gov/pesticides at least seven days prior to terminating this temporary policy.

II. Compliance Options Available under FIFRA and Related Regulations

When necessary, pesticide labels require the use of respiratory protection to protect pesticide handlers from inhalation risks.[5] Labels for agricultural pesticide products also require compliance with the Worker Protection Standard (WPS), 40 CFR part 170, which, in part, requires handler employers to provide PPE and train handlers on its use for certain activities. FIFRA prohibits the use of any registered pesticide in a manner inconsistent with its labeling. Label requirements and the provisions of WPS remain in effect as they are necessary to prevent harm to human health.

The most common respiratory protection required by pesticide labeling is the filtering facepiece respirator (FFR).[6] In the event label-required respiratory protection like an FFR is in short supply or unavailable for application of agricultural pesticide products due to the COVID-19 public health emergency, EPA encourages employers of pesticide handlers (i.e., "handler employers") and handlers to evaluate and, when viable, utilize one or more of the following approaches that are compliant with FIFRA and its implementing regulations:

- Use respirators approved by the National Institute for Occupational Safety and Health (NIOSH) that are equally or more protective than the respirator type required on the pesticide product label.[7] Selection of more protective respiratory protection should take into consideration potential safety or health hazards, such as a handler's medical evaluation results and any increased risk for heat stress.[8]

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[4] For guidance on protecting essential workforce such as those in the food and agricultural sector, refer to resources from the CDC, such as the COVID-19 Critical Infrastructure Response Planning at https://www.cdc.gov/coronavirus/2019-ncov/community/critical-infrastructure-sectors.html; for considerations for prioritization of PPE during the COVID-19 public health emergency, see the U.S. Food and Drug Administration and U.S. Department of Agriculture's recommendations at https://www.fda.gov/food/food-safety-during-emergencies/food-and-agriculture-considerations-prioritization-ppe-cloth-face-coverings-disinfectants-and

[5] See Appendix A, Sections I and II for more information on label requirements for agricultural pesticide products and respiratory protection.

[6] See Appendix A, Section II for more information on FFRs.

[7] NIOSH-approved alternatives to N95 FFRs include other classes of FFRs, elastomeric half-mask and full facepiece air purifying respirators, and powered air purifying respirators (PAPRs). All of these alternatives will provide equivalent or higher protection than N95 respirators when properly worn. See Appendix A, Section II for more information.

[8] More information is provided in the Appendix A, Section II. For precautions that employers can take against heat stress, see https://www.epa.gov/pesticide-worker-safety/preventing-heat-stress-agriculture

- Use pesticide products intended for the same use that do not require the use of respiratory protection. Resources like university extension services may be able to assist in identifying appropriate pesticide product alternatives labeled for the same pest control use and for the same commodity that do not require respiratory protection.
- Secure the services of a commercial applicator with sufficient supplies of the required PPE and associated fit testing capability.
- When possible, delay use of pesticides until one or more compliance options are available.

III. Minimizing Handler Risk When All Available Compliance Options Have Been Exhausted

Handler employers and handlers are expected to make every effort to comply with all applicable pesticide product label and WPS requirements, and to exhaust all available compliance options, including those identified in Section II of this memorandum, before considering the options below. The purpose of this section is to provide additional information to handler employers and handlers to consider when all available compliance options for respirator-related requirements of the WPS and pesticide product label have been exhausted. This memorandum addresses agricultural responsibilities for handler employers and pesticide handlers under the WPS and FIFRA, and aligns, where appropriate, with recent U.S. Occupational Safety and Health Administration (OSHA) memoranda[9] regarding the use of respiratory protection. Authorized states or tribes may take a different approach under their own authorities. All available compliance options will be considered to be exhausted when agricultural handler employers and pesticide handlers are unable to obtain compliant respiratory protection equipment or to complete respirator fit testing despite taking all reasonable steps, including those in Section II.

Specifically, this memorandum provides EPA's guidance in two specific areas, as follows:

Section III.A sets forth "Access to Respiratory Protection" options for selecting respiratory protection equipment and making responsible choices between respirators that do not meet the pesticide product label requirements including terms and conditions recommended to minimize risks to handlers described for each option. These options are presented in the preferred order consistent with the collective body of OSHA enforcement guidance:

1. Extended use or reuse of disposable N95 FFRs;
2. Use of FFRs beyond their recommended service life (i.e., "expired" FFRs); and
3. Use of FFRs that have been certified in certain countries/jurisdictions.

Section III.B sets forth "Completion of Respirator Fit Testing" options for making responsible choices for fit testing pesticide handlers during the COVID-19 public health emergency, including terms and conditions recommended to minimize risks to handlers described for each option:

1. Annual fit test delay; and
2. Fit test delay for handlers who have been previously fit tested for a different FFR (via use of an equivalent FFR).

[9] See Appendix A, Section I for direct links to the OSHA memoranda.

Recognizing that the evolving COVID-19 public health emergency may impede normal operations of regulated entities, on March 26, 2020, the Office of Enforcement and Compliance Assurance issued a memorandum entitled *COVID-19 Implications for EPA's Enforcement and Compliance Assurance Program* (Temporary COVID-19 Enforcement Policy), a temporary policy regarding enforcement of environmental obligations during this time. However, the Temporary COVID-19 Enforcement Policy does not apply to EPA requirements or standards that are applicable to use of the pesticide products and, accordingly, would not cover violations of the pesticide product label or WPS, as referenced on the pesticide product label, caused by COVID-19.[10] Thus, the EPA will, on a case-by-case basis, exercise its enforcement discretion for violations of respirator-related requirements of the WPS and pesticide product label requirements identified in the following subsections, provided that handlers and handler employers demonstrate that they have exhausted all available compliance options, including those in Section II, and are implementing the recommended terms and conditions of any of the following options. As with the Temporary COVID-19 Enforcement Policy, the EPA will assess the continued need for and scope of this temporary guidance on a regular basis.

A. Access to Respiratory Protection

It is imperative that pesticide applicators wear respiratory protection to protect their health when required by the pesticide product label. Use of respiratory protection is particularly important when mixing, loading and applying pesticides, because those occupational scenarios typically have the highest exposure potential.

Federal agencies like the Centers for Disease Control and Prevention (CDC) are currently offering advisories about cloth face coverings as use for source control (not as PPE) to protect against spread of the virus that causes COVID-19. When a pesticide label requires respiratory protection, cloth face covers are **never** an effective substitute for label-required respirators intended to protect users against pesticide exposures. Handler employers and handlers involved in pesticide applications should always consult and comply with the pesticide labeling.

Handler employers should exercise all available compliance options to acquire and provide to handler employees the most appropriate respiratory protection available. However, when the COVID-19 public health emergency causes shortages in respiratory protection equipment, and handler employers and handlers can demonstrate that all available compliance options for respirator-related requirements of the WPS and pesticide product label have been exhausted, including the options identified in Section II, and pesticide application is necessary, handler employers and handlers should act responsibly under the circumstances in order to minimize the potential for effects and duration of any noncompliance caused by COVID-19 by considering the following options (in recommended order) when selecting respiratory protection:

1. Extended use or reuse of disposable N95 FFRs, 40 CFR § 170.507(d)(6)(iii) through (iv);
2. Use of FFRs beyond their recommended service life (i.e., "expired" FFRs), FIFRA section 12(a)(2)(G);
3. Use of N95 FFRs that have been certified in certain countries/jurisdictions; 40 CFR § 170.507(b)(10)(ii)/FIFRA section 12(a)(2)(G).

[10] See https://www.epa.gov/enforcement/frequent-questions-about-temporary-covid-19-enforcement-policy#17.

When pursuing the options relating to FFRs cited in this section, handler employers should ensure, at a minimum, that:

- Handlers are provided a required medical evaluation and the handler has been cleared to use the respirator through a medical evaluation (consistent with 40 CFR § 170.507(b)(10)(iii));
- Handlers have received initial fit testing on that respirator (consistent with 40 CFR § 170.507(b)(10)(i)); and
- Handlers have received respirator use training specific to the respirator (consistent with 40 CFR § 170.501).

1. Extended Use or Reuse of Filtering Facepiece Respirators

Option Applies To: Only NIOSH-approved N95 FFRs

This option addresses the potential for extended use or reuse of FFRs for handlers mixing, loading, or applying pesticides. In the context of the use of pesticides in agriculture in this document, "extended use" refers to the practice of wearing the same FFR respirator beyond the typical respirator change out schedule as identified in 40 CFR § 170.507(d)(6)(iii) through (iv). "Reuse" refers to the practice of using the same FFR respirator by one pesticide handler for multiple pesticide applications but removing it (i.e. doffing) after each application. CDC offers guidance for extended use and reuse of FFR respirators in healthcare settings[11] using those two terms in the context of healthcare professionals wearing FFRs to prevent pathogen transmission.

The EPA's WPS requires handler employers to ensure that FFRs for agricultural uses required by pesticide product labels are used and maintained properly per 40 CFR § 170.507(b) through (d). These requirements include periodic replacement as a function of the manufacturer's recommendations, pesticide label requirements, or in the absence of such recommendations, cumulative use. In addition, pesticide product labels may specify how respirators are to be used, maintained or cared for according to manufacturer's instructions for NIOSH-approved N95 FFRs. Specifically, and applicable to this section, NIOSH-approved N95 FFRs are to be replaced under the following conditions:

- According to manufacturer's recommendations or pesticide product labeling, whichever is more frequent (per 40 CFR § 170.507(d)(6)(iii)).
- In the absence of any other instructions or indications of service life, at the end of eight hours of cumulative use (per 40 CFR § 170.507(d)(6)(iv)).

When all available options for compliance with 40 CFR § 170.507(d)(6)(iii) through (iv) have been exhausted, the EPA believes incremental risk potentially associated with extended use or reuse of FFRs can be avoided or minimized provided that handler employers and handlers comply with all other applicable requirements of the WPS and pesticide product labels and adhere to the conditions below:

- Handler employers notify and document notification to pesticide handlers before the extended use/reuse of NIOSH-approved respirators;
- Respirators maintain their structural and functional integrity and the filter material is not physically damaged, soiled, or contaminated with residue;

[11] See https://www.cdc.gov/niosh/topics/hcwcontrols/recommendedguidanceextuse.html.

- Handler employers provide training on an appropriate sequence for donning (putting on)/doffing (removal) procedures focused on preventing contamination; and
- Handler employers provide specific training to handlers on using and maintaining respirators beyond the service life identified on the label and/or at 40 CFR § 170.507(d)(6)(iii) through (iv) to ensure handlers understand replacement criteria. Additionally, training should inform handlers that if the structural and functional integrity of any part of the respirator is compromised, the respirator needs to be discarded per 40 CFR § 170.507(c)(2).

2. Use of "Expired" Filtering Facepiece Respirators

Option Applies To: Only N95 FFRs

Pursuant to FIFRA section 12(a)(2)(G), it is unlawful for any person "to use any registered pesticide in a manner inconsistent with its labeling". When pesticide labels require respiratory protection, compliance with labeling universally requires the use of NIOSH-approved respirators. Respirators are only considered NIOSH-approved when they meet all manufacturer-designated conditions of use, including use within the manufacturer's specified shelf life.

Respirators beyond their specified shelf life are considered "expired" and are no longer considered NIOSH-approved. However, NIOSH collected and tested samples of expired N95 FFRs collected from facilities across the United States and determined that certain N95 models continue to protect against the hazards for which they are designed[12]. Similarly, the Food and Drug Administration also issued an Emergency Use Authorization letter permitting the use of NIOSH-approved, disposable filtering facepiece respirators, including those that were NIOSH-approved but have since passed the manufacturer's recommended shelf life.[13] Therefore, when all available options for compliance with pesticide label requirements mandating the use of NIOSH-approved respirators have been exhausted, and the FFR is beyond its recommended shelf life, the following option can be explored if certain conditions are met. EPA believes adherence to the conditions below is critical to avoiding or minimizing incremental risk potentially associated with the use of expired FFRs provided that handler employers and handlers comply with all other applicable requirements of the WPS and pesticide product labels and the following conditions are met:

- The expired N95 FFRs[14] must have been previously NIOSH-certified;
- Handler employers document and maintain records of the causes and circumstances necessitating the use of N95 FFR respirators beyond the manufacturer-designated shelf life;
- Handler employers notify and document notification to pesticide handlers of the action to provide expired N95 FFRs prior to use;

[12] See https://www.cdc.gov/niosh/npptl/respirators/testing/ExpiredN95results.html.

[13] For FFRs used in healthcare settings to mitigate further transmission of SARS-CoV-2; https://www.fda.gov/regulatory-information/search-fda-guidance-documents/enforcement-policy-face-masks-and-respirators-during-coronavirus-disease-covid-19-public-health.

[14] NIOSH regularly updates testing results for respirators beyond the manufacturer's recommended shelf life; Available at www.cdc.gov/coronavirus/2019-ncov/release-stockpiled-N95.html.

- Handler employers must ensure respirators are inspected for leaks, holes, tears, or worn places, and ensure that any damaged equipment is repaired or discarded (per 40 CFR § 170.507(c)(2)); and
- Handler employers and handlers should not co-mingle respirators that are expired with items that are within the limits of their manufacturer recommended shelf life.

3. Use of FFRs that Have Been Certified in Certain Countries/Jurisdictions

Option Applies To: All FFRs

Under FIFRA, when pesticide labels require respiratory protection, NIOSH-approved respirators are universally required. EPA encourages handler employers to provide NIOSH-approved respirators to handlers, as indicated on the pesticide product label. In the event handlers are impacted by NIOSH-approved respirator shortages resulting from the COVID-19 public health emergency, authentic FFR respirators certified in certain other countries/jurisdictions will perform similarly[15] to NIOSH-certified equipment as long as the user is able to obtain an effective seal check for the respirator. With all compliance options exhausted including those in Section II, as well as the options in Sections III.A.1 and III.A.2 (i.e., reuse, extended use, and "expired" use), handler employers may then consider:

- Procuring FFR respirators manufactured in accordance with the following performance standards:
    - AS/NZS 1716:2012 (Australia)
    - ABNT/NBR 13698:2011 (Brazil)
    - EN 149-2001 (European Union)
    - JMHLW-2000 (Japan)
    - KMOEL-2017-64 (Republic of Korea)
    - NOM-116-2009 (Mexico)
- Procuring FFR respirators manufactured in accordance with the following performance standards and manufactured by a NIOSH certificate holder:
    - GB 2626-2006 (People's Republic of China)

The handler employer should document and maintain a record of the respirator purchased for use, along with cause and rationale for selecting the FFR respirator approved under non-U.S. standards for use during pesticide application.

Handler employers should consider CDC recommendations[16] during the process of procuring respirators that are not NIOSH-approved. Potential purchasers of respirators that are not NIOSH-approved should evaluate the device they plan to purchase, the manufacturer, any third-party intermediary (if applicable), and the contract terms before making purchasing decisions. Additionally, NIOSH is regularly updating and publishing filter efficiency results from non-NIOSH-approved respirators on their website.[17] Handler employers should consider test reports from the NIOSH website to assist making respiratory protection equipment procurement

[15] Table 1 from OSHA's April 3, 2020 memorandum is excerpted in Appendix B of this EPA memorandum. The table includes respirators that are similar to NIOSH-approved N95s except approved under standards used in other countries or jurisdictions.
[16] Available at https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/international-respirator-purchase.html.
[17] See https://www.cdc.gov/niosh/npptl/respirators/testing/NonNIOSHresults.html.

decisions. Specifically, authentic FFRs approved under non-U.S. standards should demonstrate minimum filtration efficiency consistent with NIOSH-approved N95 FFRs.

While NIOSH has performed testing to evaluate respirator filter efficiency of these respirators, many of the FFR alternatives cited in Appendix B of this document have an "ear loop" design as opposed to the elastic head band used by NIOSH-approved N95 FFRs. The "ear loop" design may negatively affect an individual's fit for a FFR respirator. Irrespective of design variations, handlers should always perform a seal check to ensure proper fit each time they put on a respirator. Handlers should follow the OSHA seal check procedures[18] to ensure the appropriate respirator fit.

Handler employers and handlers should be alert for fraudulent products.[19] CDC warns on their website, "…due to the current demand, buyers should be aware that an unprecedented number of products on the market do not perform as advertised."[20] Based on the CDC recommendations, the most common fraudulent scenarios include:

1. Documents are altered so FFR models appear to comply with a particular standard, but they do not.
2. Certification marks are counterfeit.
3. Manufacturers' names, logos, and model numbers are counterfeit.

EPA stresses the importance of using due diligence to maximize the possibility of obtaining safe and effective respiratory protection.

B. Completion of Respirator Fit Testing

Both initial and annual fit testing are required as part of OSHA's Respiratory Protection Standard and those two elements have been adopted by reference within the WPS. For WPS-covered uses where respiratory protection is required, handler employers must ensure that:

- Handlers have been cleared to use the respirator through the required medical evaluation (per 40 CFR § 170.507(b)(10)(iii));
- Handlers have been provided with initial fit testing of the respirator specified on the pesticide product labeling (per 40 CFR § 170.507(b)(10)(i)); and
- Handlers have received respirator use training specific to the respirator (consistent with 40 CFR § 170.501).

Guidance in the section below addresses the following:

- Annual fit test delay; and
- Fit test delay for handlers who have been previously fit tested for a different FFR (via use of an equivalent FFR).

[18] See *User Seal Check Procedures,* cited in OSHA memorandum and available at www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.134AppB1.
[19] See https://www.cdc.gov/niosh/npptl/usernotices/counterfeitResp.html.
[20] See https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/international-respirator-purchase.html.

1. Annual Fit Test Delay

Option Applies To: All NIOSH-approved Respirators that Require Fit Testing

Annual fit testing is required pursuant to 40 CFR § 170.507(b)(10)(i). The COVID-19 public health emergency has created challenges for both handler employers responsible for conducting and handlers accessing the WPS-required annual respirator fit testing.

If there is a delay of an annual fit test caused by the present COVID-19 public health emergency, the EPA believes incremental risk potentially associated with such a delay can be avoided or minimized provided that handler employers and handlers comply with all other applicable requirements of the WPS and pesticide product labels and adhere to the conditions below:

- Handlers have received an annual fit test during the prior calendar year (2019) on the specific make and model of respirator they will continue to use;
- Handlers have not had a physiological change that affects the seal between the facepiece and the user's face (e.g., ±20 lb. gain/loss, facial surgery, scarring or dental procedures since the last fit test);
- The handler employer can demonstrate that the handler has received respirator training in the previous 12 months and can ensure that the handler can demonstrate knowledge of the points covered in the training that conforms to the provisions of 29 CFR § 1910.134(k)(l)(i) through (vi) (as required by reference in the WPS per 40 CFR § 170.507(b)(10)(ii)); and
- The handler employer has informed the handler of the time-limited change to the annual fit test requirement to preserve and prioritize the supply of respirators because of the COVID-19 public health emergency.

2. Fit Test Delay for Handlers that Have Been Previously Fit Tested for a Different FFR (via Use of an Equivalent FFR)

Option Applies To: NIOSH-approved FFRs

Per 40 CFR § 170.507(b)(10)(i), the WPS requires fit testing for pesticide handlers before they first use a given type of NIOSH-approved respirator. The COVID-19 public health emergency has created challenges for both handler employers responsible for conducting and handlers accessing the WPS-required fit testing.

If a handler was fit tested for a NIOSH-approved FFR, and the handler employer is unable to procure that particular make/model/style of respirator, the option to delay the fit test (specific to another NIOSH-approved FFR) can be explored if certain conditions are met. This option does not apply to FFRs that are not NIOSH-approved. Given the reported shortages of fit testing chemicals and kits, this option is designed to prioritize use of fit-testing equipment to protect handlers using respirators for more inherently toxic agricultural pesticide products, which can be identified based on the type of PPE required (per 40 CFR § 170.505(c) (e.g., a handler using an air-purifying full-face respirator with combination Organic Vapor (OV) cartridge and N-type particulate filter)).

If the fit testing is delayed because of the current COVID-19 public health emergency, the EPA believes incremental risk potentially associated with such a delay can be avoided or minimized

provided that handler employers and handlers comply with all other applicable requirements of the WPS and pesticide product labels and adhere to the conditions below:

- Handler employers should document in advance that they are unable to procure a handler's respirator (i.e., that the NIOSH-approved make/model/size/style of respirator is not available);
- Handler employers can document the manufacturer recommended crosswalk for the equivalent-fitting NIOSH-approved make/model/size/style cited above.
- Handler employers can secure an equivalent NIOSH-approved fitting make/model/size/style respirator recommended by the manufacturer to the FFR respirator the handler received fit testing for;
- The handler employer can demonstrate that the handler has received respirator training on the equivalent-fitting NIOSH-approved make/model/size/style in the previous 12 months and ensure that the handler can demonstrate knowledge of the points covered in the training that conforms to the provisions of 29 CFR § 1910.134(k)(l)(i) through (vi) (as required by reference in the WPS per 40 CFR § 170.507(b)(10)(ii)); and
- The handler employer has informed the handler of the time-limited change to the fit test requirement to preserve and prioritize the supply of respirators because of the COVID-19 public health emergency.

This option is based on respirator manufacturer-recommended respirator similarity based on the crosswalk of make/model/size/style of similar NIOSH-approved models. It is logical that manufacturers are able to identify like-fitting respirator models for handlers employed in agricultural production. This option is expected have minimal change in risk for handlers as handlers are expected to routinely use in-field seal checks as required and resume compliance with the fit test requirement after the public health emergency subsides.

Attachments

Appendix A: Background
Appendix B: Use of FFRs Certified in Certain Countries/Jurisdictions

Appendix A: Background

I. Worker Protection Standard and OSHA's Respiratory Protection Standard

EPA is working closely with its federal partners, states, tribes, and stakeholders to ensure that the health and safety of agricultural pesticide handlers are protected and there is adequate guidance to address respirator concerns during the COVID-19 public health emergency.

Occupational Safety and Health Administration's (OSHA) standards for agricultural operations are addressed in specific standards for agriculture (29 CFR § 1928) and general industry (29 CFR part 1910), although those standards exclude the regulation of pesticides in agriculture. The EPA guidance in this document refers to several OSHA enforcement guidance documents relating to occupational respiratory protection applicable for general industry (including healthcare employers) as EPA's Worker Protection Standard incorporates OSHA's Respiratory Protection Standard by reference. The OSHA enforcement guidance issued in response to COVID-19 includes:

- Expanded Temporary Enforcement Guidance on Respiratory Protection Fit-Testing for N95 Filtering Facepieces in All Industries During the Coronavirus Disease 2019 (COVID-19) Pandemic dated April 8, 2020;[21]
- Enforcement Guidance for Respiratory Protection and the N95 Shortage Due to the Coronavirus Disease 2019 (COVID-19) Pandemic dated April 3, 2020;[22] and
- Enforcement Guidance for Use of Respiratory Protection Equipment Certified under Standards of Other Countries or Jurisdictions During the Coronavirus Disease 2019 (COVID-19) Pandemic dated April 3, 2020.[23]

With respect to respirator requirements for agricultural pesticide products:

- The pesticide product label specifies the required respiratory protection and may include additional requirements regarding conditions of its use and care.
- Pesticide products for agricultural use require compliance with the Agricultural Worker Protection Standard (WPS) by reference. The WPS requires handler employers to provide fit testing, medical evaluation, and training for pesticide handlers using products that require respirator use before a pesticide handler performs any activity requiring a respirator.

These requirements are established by incorporating by reference certain OSHA requirements set forth at 29 CFR § 1910.134. While EPA's WPS (40 CFR § 170.507(b)(10)(i)-(iii)) incorporates elements of OSHA's Respiratory Protection Standard, there are differences. For example, the WPS does not require handler employers to have a written respiratory protection program, and

[21] Available at https://www.osha.gov/memos/2020-04-08/expanded-temporary-enforcement-guidance-respiratory-protection-fit-testing-n95. Note: The following enforcement guidance refers to an earlier OSHA memorandum that was exclusive to the healthcare provider employers: https://www.osha.gov/memos/2020-03-14/temporary-enforcement-guidance-healthcare-respiratory-protection-annual-fit.

[22] Available at https://www.osha.gov/memos/2020-04-03/enforcement-guidance-respiratory-protection-and-n95-shortage-due-coronavirus.

[23] Available at https://www.osha.gov/memos/2020-04-03/enforcement-guidance-use-respiratory-protection-equipment-certified-under.

the WPS includes a provision that employers are required to keep records of the training (40 CFR § 170.507(b)(10)).

II. Respirator Background

The most common respiratory protection required by pesticide labeling is the filtering facepiece respirator (FFR). Pesticide labeling currently identifying filtering facepiece respirators as a requirement references the following language:

> *Wear a minimum of a NIOSH-approved particulate filtering facepiece respirator with any N, R, or P filter; OR a NIOSH-approved elastomeric particulate respirator with any N, R, or P filter; OR a NIOSH-approved powered air purifying respirator with HE filters.*[24]

Pesticide labeling yet to be updated to modern terminology may identify this respirator as a dust/mist filtering respirator.

FFRs are air-purifying respirators manufactured with three different series of particulate filter (N-, R-, or P-type depending on their oil resistance) and three different filter efficiencies (95%, 99%, and 99.97%).

FFRs are considered disposable, because none of the parts are replaceable.

The N95 FFR may be used for solid and liquid particulate hazards, is not resistant to oil as a component of the ambient contaminant (N-series) and it has an efficiency rating of 95% (95 out of 100 particles are filtered out at the 0.3 μm particle size).

When a FFR is required for respiratory protection, employers may consider use of alternative classes of respirators that provide equal or greater protection compared to that FFR, as long as the alternative is appropriate given the makeup of the pesticide tank mix. Examples of N95 FFR alternatives that provide an assigned protection factor (APF) of at least 10 include NIOSH-approved, non-disposable, elastomeric respirators or powered, air-purifying respirators (PAPRs).

Other FFRs, such as N99, N100, R95, R99, R100, P95, P99, and P100, are also potential alternatives for those who are unable to obtain N95 FFRs required by a pesticide label. In the event employers/handlers need to use pesticides that require respiratory protection, handler employers may select alternative respirators offering equivalent or greater respiratory protection than those required on the pesticide label.

[24] See the revised respirator section of EPA's Label Review Manual - Chapter 10 at https://www.epa.gov/pesticide-registration/label-review-manual-chapter-10-revised-respirator-descriptions-public-comment.

Appendix B: Use of FFRs Certified in Certain Countries/Jurisdictions

Handler employers may consider using respirators under standards of other countries or jurisdictions under certain conditions as specified in Section III of this EPA memorandum. The table below identifies FFRs similar to NIOSH-approved N95 FFRs respirators that are approved under performance standards of other countries and jurisdictions. This table is excerpted from the OSHA's April 3, 2020 memorandum (Appendix A, Table 1)[25] and identifies potentially acceptable alternative respirators to those specified on the pesticide product label.[26]

As an example, P2 respirators are certified by the European Union (EU) under the EN 149-2001 Performance Standard. According to the OSHA memorandum, certification in accordance with the EU standard ensures that devices provide similar filtration as NIOSH-approved equipment and may be used in lieu of NIOSH-approved N95 FFRs.

Similarly, KN95 respirators manufactured by a NIOSH certificate holder and certified in accordance with the People's Republic of China standard GB 2626-2006 will perform similarly to NIOSH-approved N95 FFRs. The handler employer should verify respirators listed in Table 1 from the People's Republic of China are manufactured by a NIOSH certificate holder. The use of an elastic strap design is preferred over the "ear loop" design and handlers should always perform seal checks prior to respirator use.

Table 1: Respirators Approved Under Standards Used in Other Countries or Jurisdictions That Are Similar to NIOSH-Approved N95 Filtering Facepiece Respirators[27]

Country	Performance Standard	Acceptable Product Classification	May Be Used in Lieu of NIOSH-Certified Products Classified as:
Australia	AS/NZS 1716:2012	P2	N95
		P3	N99 or lower
Brazil	ABNT/NBR 13698:2011	PFF2	N95
		PFF3	N99 or lower
China (People's Republic of)	GB 2626-2006	KN/KP95	N95
		KN/KP100	N99 or lower
Europe	EN 149-2001	P2	N95
		P3	N99 or lower
Japan	JMHLW-2000	DS/DL2	N95

[25] Available at https://www.osha.gov/memos/2020-04-03/enforcement-guidance-use-respiratory-protection-equipment-certified-under.

[26] Additionally, handler employers should consider test reports from NIOSH to assist making respiratory protection equipment procurement decisions; authentic FFRs approved under non-U.S. standards should demonstrate minimum filtration efficiency consistent with NIOSH-approved N95 FFRs. See https://www.cdc.gov/niosh/npptl/respirators/testing/NonNIOSHresults.html.

[27] The table is excerpted from OSHA memorandum, Appendix A, available at https://www.osha.gov/memos/2020-04-03/enforcement-guidance-use-respiratory-protection-equipment-certified-under.

Country	Performance Standard	Acceptable Product Classification	May Be Used in Lieu of NIOSH-Certified Products Classified as:
		DS/DL3	N99 or lower
Korea (Republic of)	KMOEL-2017-64	Special 1st	N95
Mexico	NOM-116-2009	N95	N95
		R95	R95 or lower
		P95	P95 or lower
		N99	N99 or lower
		R99	R99 or lower
		P99	P99 or lower
		N100	N100 or lower
		R100	R100 or lower
		P100	P100 or lower