



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

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

May 6, 2024

MEMORANDUM

SUBJECT: Updated Label Language for the *Sulfuryl Fluoride Revised Mitigation and Response to Comments on the Draft Interim Re-Entry Mitigation Measures*, June 28, 2023.

FROM: Moana Appleyard, Senior Regulatory Advisor *Moana Appleyard*
Risk Management and Implementation Branch 2
Pesticide Re-evaluation Division

THROUGH: Kevin Costello, Branch Chief
Risk Management and Implementation Branch 2
Pesticide Re-evaluation Division

A handwritten signature in black ink, appearing to read "Kevin Costello".

TO: Sulfuryl Fluoride Docket, [EPA-HQ-OPP-2009-0136](https://www.epa.gov/epahome/epa-hq-opp-2009-0136)

Introduction:

This document announces updated label language and amends the *Sulfuryl Fluoride Revised Mitigation and Response to Comments on the Draft Interim Re-entry Mitigation Measures*, June 28, 2023, which had additional updates on September 27, 2023, and November 9, 2023. This amendment is intended to clarify earlier label language, based on comments from stakeholders, and serves as the final mitigation to respond to the Office of Inspector General's (OIG) 2016 Report, *Additional Measures Can Be Taken to Prevent Deaths and Serious Injuries From Residential Fumigations* (No. 17-P-0053). The scope of this mitigation is focused on the use of

sulfuryl fluoride as a structural fumigant in residential use sites¹. Notwithstanding this action, sulfuryl fluoride is still undergoing EPA's re-evaluation process, Registration Review, wherein all uses of sulfuryl fluoride are included. A complete label table is listed below in **Appendix B. Revised Label Table for Sulfuryl Fluoride Products – May 2024**.

Background and Update:

EPA announced the final mitigation decision for sulfuryl fluoride residential uses in response to the OIG Report on June 29, 2023, requiring new labels to be submitted to the Agency with updated language. After the decision document posted, the Agency received comments from the registrants and stakeholders requesting clarifications on the label language, which resulted in updates to the sulfuryl fluoride docket on September 27, 2023, and on November 9, 2023. In April 2024, stakeholders submitted an additional request and a recommendation for further clarification on the clearance device label language. The Agency and the registrants agreed to update the reference in the Language Regarding Portable Clearance Devices, to add clarity, which is the only update to sulfuryl fluoride label requirements in this amendment.

The additional, clarifying language in **red** in the reference below, can be found under the label table section, "Language Regarding Portable Clearance Devices". The complete sulfuryl fluoride label table requirements to address the OIG Report, are listed in **Appendix B. Revised Label Table for Sulfuryl Fluoride Products – May 2024**.

"Confirm concentration of sulfuryl fluoride of 1ppm or less **with a clearance device**. Refer to EPA's website at [Sulfuryl Fluoride | US EPA \(https://www.epa.gov/ingredients-used-pesticide-products/sulfuryl-fluoride\)](https://www.epa.gov/ingredients-used-pesticide-products/sulfuryl-fluoride) for more information and a list of effective clearance devices."

¹ A residential use site is a structure is where people typically live (temporarily or permanently) and sleep, such as single-family residences, mobile homes, apartments, townhouses, condominiums, hotels, motels, assisted care facilities, nursing homes, hospitals, barracks, and dormitories.

APPENDIX B. Revised Label Table for Sulfuryl Fluoride Products – May 2024

Description	Amended May 2024 - Label Language for Sulfuryl Fluoride Products for Residential Fumigation	Placement on Label
End Use Products		
<p>Warning Sign Label Language. Posting of Fumigated Areas Language is for Residential Fumigants. List includes a baseline of requirements for warning signs. States that currently have requirements for warning signs that include these elements listed here, can maintain those requirements for warning signs. Additional elements imposed by states may also be added for residential structural fumigations.</p>	<p>“The following is a baseline of requirements for warning signs to be posted for fumigations using [Product name]. States that currently have requirements that are comparable to the elements listed here, can maintain those requirements for warning signs. Additional elements imposed by states may also be added to these warning signs.</p> <ol style="list-style-type: none"> 1. The applicator must post the fumigated areas with warning signs with a white background stating the following: <ol style="list-style-type: none"> a. The signal word DANGER/PELIGRO at a minimum height of 2 inches, the SKULL and CROSSBONES symbol at a minimum height of 1 inch, and the statement “Area under fumigation, DO NOT ENTER/NO ENTRE” - all printed in one or more colors contrasting with the white background b. The date of fumigation. c. Brand name of fumigant used (minimum height ½ inch). d. Name, address, and telephone number of the applicator, or company performing the fumigation. 2. Information on warning signs must remain legible and visible for the duration of the fumigation and aeration periods. 3. Warning signs must be placed on the structure at or near all doors and entrances. 4. On tented structures, additional warning signs must be placed on the outside of the tarp so that they are clearly visible from all accessible sides, and from any direction from which the site may be approached.” 	<p>In the Directions for Use under the heading “Posting of Fumigated Areas”</p>
<p>Site-specific Structural Fumigation Log for all end-use products containing directions for residential uses. Listed elements are a baseline of requirements for fumigation logs. A residential structure is where people typically live</p>	<p>“Structural Fumigation Log requirements. The following elements for structural fumigation for each site must be documented.</p> <p>The Site-specific Structural Fumigation Log is intended to ensure a safe and effective fumigation. The certified applicator in charge of fumigation is responsible for verifying that a Fumigation Log must contain, as a minimum, the information listed below. The information followed by a “(B)” below must be documented before the initiation of the fumigation; other information listed below without a “B” must be documented during the fumigation process, if not before. Contracts, site graphs, dose calculation reports, state or federally required forms and/or other documents prepared for or used during the fumigation can be used as</p>	<p>In the Directions for Use under the heading “Site-Specific Structural Fumigation Log”</p>

Description	Amended May 2024 - Label Language for Sulfuryl Fluoride Products for Residential Fumigation	Placement on Label
<p>(temporarily or permanently) and sleep, such as single-family residences, mobile homes, apartments, townhouses, condominiums, hotels, motels, assisted care facilities, nursing homes, hospitals, barracks, and dormitories.</p>	<p>documentation for these Fumigation Log requirements. Fumigation employees who introduce chloropicrin and sulfuryl fluoride, initiate aeration, and/or conduct final clearance testing must have participated in the registrant’s sulfuryl fluoride training, as required by the registrant’s stewardship plan.</p> <p>1. General Information:</p> <ul style="list-style-type: none"> • Fumigation company (B) • Fumigation site address (B) • Structure type (B) • Target pest(s) (B) <p>2. Fumigant introduction:</p> <p><u>Dosing calculations:</u></p> <ul style="list-style-type: none"> • Dosage factor • Tarp condition • Under seal type • Seal condition • Wind (mph) • Volume of fumigated space (1000 cubic feet) (B) • Underseal • Temperature • Hours of Exposure <p><u>Introduction of chloropicrin and sulfuryl fluoride:</u></p> <ul style="list-style-type: none"> • Name, license number, and signature of certified applicator responsible for introduction of chloropicrin and sulfuryl fluoride. • Name(s) of second trained person(s) and certified applicator(s) assisting with introduction of chloropicrin and sulfuryl fluoride. • Total ounces of warning agent chloropicrin introduced and number of introduction sites. • Cylinder serial number(s) of sulfuryl fluoride applied. • Pounds of fumigant applied. • Date and time of fumigant release. <p>3. Aeration:</p> <ul style="list-style-type: none"> • Name, license number, and signature of certified applicator responsible for initiating aeration. 	

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	<ul style="list-style-type: none"> • Name(s) of certified applicator(s) and second trained person(s) assisting with initiating aeration. • Date and time of aeration initiated. <p>4. Final clearance testing:</p> <ul style="list-style-type: none"> • Name, license number, and signature of certified applicator responsible for conducting final clearance testing. • Name(s) of certified applicators assisting final clearance testing. • Date and time final clearance testing completed. • Clearance device model type <p>5. Emergency response information: “Get exposed person to fresh air. Call 911 or an ambulance. Keep exposed person warm and at rest. Make sure person can breathe freely. If breathing has stopped, give artificial respiration. Do not put anything in the mouth of an unconscious person.”</p> <p>6. Open Comment field: Provide an open field for additional comments or issues that is not captured in other sections of this Structural Fumigation Log.”</p>	
<p>Product Stewardship Plan reference for residential structural fumigations.</p> <p>A residential structure is where people typically live (temporarily or permanently) and sleep, such as single-family residences, mobile homes, apartments, townhouses, condominiums, hotels, motels, assisted care facilities, nursing homes, hospitals, barracks, and dormitories.</p>	<p>“[The registrant]’s Product Stewardship Plan that includes EPA’s stewardship plan criteria is available at Sulfuryl Fluoride US EPA. Applicators and distributors of [product name] must participate in [the registrant]’s Product Stewardship Plan for residential structural fumigations. This plan is also available at Sulfuryl Fluoride US EPA for [Product name]. [Product name] must only be used by application personnel who satisfactorily comply with the [product name] Stewardship Plan, including the initial and annual training requirements.”</p>	<p>In Directions under heading “[the registrant]’s Product Stewardship Plan</p>
<p>Language Regarding Portable Clearance Devices</p>	<p>Registrants, remove all references to clearance devices being “approved.” Replace language with the following statement:</p>	<p>In the Directions for Use under the heading “Aeration and Reentry”</p>

Description	Amended May 2024 - Label Language for Sulfuryl Fluoride Products for Residential Fumigation	Placement on Label
	<p>“Confirm concentration of sulfuryl fluoride of 1ppm or less with a clearance device. Refer to EPA’s website at Sulfuryl Fluoride US EPA (https://www.epa.gov/ingredients-used-pesticide-products/sulfuryl-fluoride) for more information and a list of effective clearance devices.”</p>	
<p>Aeration and Reentry Requirements for residential structures.</p> <p>A residential structure is where people typically live (temporarily or permanently) and sleep, such as single-family residences, mobile homes, apartments, townhouses, condominiums, hotels, motels, assisted care facilities, nursing homes, hospitals, barracks, and dormitories</p>	<p>Registrants, for residential fumigations, replace the language for Aeration Procedures 1 & 2 with the revised language, which reflects the new aeration times:</p> <p>“Preparation Section</p> <p>Prepare for Aeration Procedures 1 and 2 by doing the following:</p> <ul style="list-style-type: none"> • Open all operable attic doors and accesses and direct a fan into the attic. • Position introduction and circulation fans to provide for air circulation throughout the fumigated space. For example, a circulation fan in the hall could be used to aid air circulating in bedrooms and bathrooms. • Use a minimum of one fan of at least 18 inches in diameter for every 22,500 cubic feet of space to be fumigated. <p>Select the appropriate procedure based on the fumigation rate:</p> <p>All structures fumigated at 16 oz/MCF (1,000 cubic feet of gas) or less may be aerated using Aerations Procedures 1 or 2.</p> <p>All structures fumigated at concentrations greater than 16 oz/MCF must be aerated using Aeration Procedure 2.</p> <p>Aeration Procedure 1 These steps must be completed in sequence. Step (1): Aerate structure with all operable windows and doors open, aided by at least one fan (of at least 18 inches in diameter) for every 22,500 cubic feet of fumigated space, for a minimum of 2 hours following the directions in the Preparation section. If the structure has an attached garage, the door between the garage and structure should be open. If the structure has a central air system, turn on only the fan (or blower) for each operational unit. As an alternative, a circulation fan may be placed in front of a furnace inlet to blow air into central heating and cooling ducts. Removal of all chloropicrin evaporation containers from the fumigated space during Step (1) will aid in the dissipation of the warning agent from the structure.</p>	<p>In the Directions for Use under the heading “Aeration and Reentry”</p>

Description	Amended May 2024 - Label Language for Sulfuryl Fluoride Products for Residential Fumigation	Placement on Label
	<p>Step (2): Secure structure and do not allow reentry for a minimum of 12 hours from the start of aeration (first opening of the seal) for residential structures¹. During this time structures must remain posted with warning signs.</p> <p>Step (3): After the minimum 12-hour waiting period in Step (2), measure the concentration of [Product name] in breathing zones of each room using a clearance device listed on the EPA website at Sulfuryl Fluoride US EPA. If the concentration of [Product name] is greater than 1 ppm, ventilate structure with operable doors and windows open and confirm concentrations are 1 ppm or less before the structure is reoccupied.</p> <p>Aeration Procedure 2 These steps must be completed in sequence.</p> <p>Step (1): Aerate structure with all operable windows and doors open, aided by at least one fan (of at least 18 inches in diameter) for every 22,500 cubic feet of fumigated space, for a minimum of 2 hours following the directions in the Preparation section. If the structure has an attached garage, the door between the garage and structure should be open. If the structure has a central air system, turn on only the fan (or blower) for each operational unit. As an alternative, a circulation fan may be placed in front of a furnace inlet to blow air into central heating and cooling ducts. Removal of all chloropicrin evaporation containers from the fumigated space during Step (1) will aid in the dissipation of the warning agent from the structure.</p> <p>Step (2): Secure the structure and do not allow reentry the minimum number of hours as listed in the Table X. Determining Minimum Hours of Aeration Time Based on Initial Concentration of Sulfuryl Fluoride Introduced, from the start of aeration (first opening of the seal) for residential structures.¹ During this time the structure must remain posted with warning signs.</p> <p>Step (3): After the minimum waiting period, measure the concentrations of [Product name] in breathing zones of each room using a clearance device listed on the EPA website at Sulfuryl Fluoride US EPA. If the concentration of [Product name] is greater than 1 ppm, ventilate structure with operable doors and windows open and confirm concentrations are 1 ppm or less before the structure is reoccupied.</p> <p style="text-align: center;">Table X. Determining Minimum Hours of Aeration Time Based on Initial Concentration of Sulfuryl fluoride Introduced</p>	

Description	Amended May 2024 - Label Language for Sulfuryl Fluoride Products for Residential Fumigation		Placement on Label														
	<table border="1"> <thead> <tr> <th>Initial Concentration of Sulfuryl Fluoride Introduced (ounces per thousand cubic feet)</th> <th>Minimum Hours of Aeration Time**</th> </tr> </thead> <tbody> <tr> <td>Greater than 16 to 32</td> <td>14</td> </tr> <tr> <td>Greater than 32 to 48</td> <td>16</td> </tr> <tr> <td>Greater than 48 to 64</td> <td>18</td> </tr> <tr> <td>Greater than 64 to 96</td> <td>20</td> </tr> <tr> <td>Greater than 96 to 112</td> <td>22</td> </tr> <tr> <td>Greater than 112</td> <td>24</td> </tr> </tbody> </table> <p>**When the high ambient temperature for the aeration period is below 40°F at the fumigation site, a minimum of 24 hours of aeration is required.</p> <p>¹ A residential structure is where people typically live (temporarily or permanently) and sleep, such as single-family residences, mobile homes, apartments, townhouses, condominiums, hotels, motels, assisted care facilities, nursing homes, hospitals, barracks, and dormitories.”</p>		Initial Concentration of Sulfuryl Fluoride Introduced (ounces per thousand cubic feet)	Minimum Hours of Aeration Time**	Greater than 16 to 32	14	Greater than 32 to 48	16	Greater than 48 to 64	18	Greater than 64 to 96	20	Greater than 96 to 112	22	Greater than 112	24	
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