



SC DEPARTMENT of **ENVIRONMENTAL SERVICES**

MEMORANDUM

TO: BAQ Air Permitting Division

FROM: Hetal Patel, James C. Robinson, P.E.

THROUGH: Steve McCaslin, P.E., Director, Air Permitting Division

DATE: May 6, 2013, August 30, 2019

SUBJECT: Fumigation Permitting Guidance

Introduction

The South Carolina Department of Environmental Services, Bureau of Air Quality (Department) has established the following permit guidance for fumigation activities. This guidance will be used by the Department to determine the following: what type of permit action is required, how to process permits/exemptions for fumigation activities that emit hazardous air pollutants (HAPs), toxic air pollutants (TAPs), and volatile organic compounds (VOCs), and how state and federal air regulations apply such as SC Regulation 61-62.5, Standards 7 (PSD) and 8 (Toxic Air Pollutants), Clean Air Act Section 112(g), and 40 CFR 70 (Title V).

Fumigation is a pest control method that completely fills an area with gaseous chemicals, or fumigants, to eradicate pests. It is utilized to control pests in buildings (structural fumigation), soil, grain, produce, and is also used to prepare goods for import or export to prevent transfer of exotic organisms. For import/export goods, fumigation is typically performed in a sealed enclosure to retain the fumigant for a sufficient length of time to control the target pest. At the conclusion of the treatment process, the sealed enclosure is opened, releasing fugitive emissions to the atmosphere. There are several widely used fumigants, including the following 9 compounds: methyl bromide (HAP, TAP), sulfuryl fluoride, phosphine (HAP, TAP, 112(r)), 1,3-dichloropropene (HAP, TAP, VOC), chloropicrin, methyl isocyanate (HAP, TAP, VOC, 112(r)), hydrogen cyanide (HAP, TAP, VOC, 112(r)), formaldehyde (HAP, TAP, VOC, 112(r)), and idoform.

Before initiating fumigation activities on-site, the owner/operator of the site must either meet one of the preapproved exempt scenarios below, or submit site and emissions information, as described below, to the Department. The need for permit(s) will be made by

the Department on a case-by-case basis. This determination will take into consideration, but will not be limited to, the nature and amount of the pollutants, location, proximity to residences and commercial establishments, etc.

Permitting of Fumigation Activities

Case-by-case determinations have been completed and an exemption from the permitting process has been approved for the following scenarios:

- Agricultural facilities that have seasonal operations such as peach growers. Agricultural facilities under this section do not include wood product sources/processes.
- Facilities that perform fumigation as an ancillary activity up to several times a year to control pest infestation, as a preventative maintenance measure to keep facility assets in an acceptable condition.

If the fumigation activity does not fall into one of the two scenarios above, a case-by case determination is required to determine if the process is subject to air quality permitting requirements. The following information and supporting documentation must be submitted in writing to the Department for review:

- A description of the fumigation process to include, as a minimum;
 - the product(s) being fumigated (including size and quantity);
 - a list of all fumigants used (include a safety data sheet for each fumigant);
 - for each fumigant listed, provide the following information:
 - the method of application (including containment system);
 - the fumigation application rate and quantity;
 - the frequency of fumigation (times/day, days/week, weeks/year);
 - duration of fumigation (hours/day, days/week, weeks/year);
 - the minimum amount/length of time product(s) are sealed after fumigant is applied;
 - the minimum amount/length of time products are allowed to aerate;
 - the typical work week (hours/day, days/week, weeks/year);
 - a map/drawing of the property showing the location of the treatment process; and
 - any other information necessary to determine if a permit is needed.

- Fumigation emission calculations, including fugitives. Emission calculations need to assume 100% of the fumigant used is emitted to the atmosphere.
- Demonstration of compliance with SC Regulation 61-62.5, Standard 8 for all TAP emissions.

Construction and operation of fumigation activities is restricted until written approval is received from the Department.

The Department will review all submitted information, consider permitting options, and upon completion of the review process, provide the owner/operator with the results of the case-by-case determination.

RECORD OF REVISIONS	
Date	Description of Changes
May 6, 2013	Initial Document.
August 30, 2019	Modified document to clarify that SC Regulation 61-62.5, Standard No. 8 (Std 8) needs to be addressed and that Std 8 exemptions are on a case by case basis. Updated document to current standard formatting.
July 1, 2024	Updated to new agency logo and name.