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DAQ WIRO

CONSTRUCTION PERMIT APPLICATION Synthetic Minor Modification

**Ecolab Inc. - New Castle, DE
NC State Port of Wilmington
Fumigation Facility**

Prepared By:

Dale Overcash – Principal Consultant
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TRINITY CONSULTANTS

One Copley Parkway, Suite 205
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919 462 9693

November 2020

Project 203401.0130

Trinity
Consultants 

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DAQ WIRO

November 20, 2020

Dean Carroll
NC DAQ Wilmington Regional Office
127 Cardinal Drive Extension
Wilmington, NC 28405

RE: *Submittal of Construction Application for Ecolab Inc.*

65 - 00356

R02 → R03

Mr. Carroll,

Ecolab Inc. (Ecolab) currently operates a fumigation operation at the Port of Wilmington (Permit 10313R02). Trinity Consultants (Trinity), on behalf of Ecolab, is submitting the attached construction permit application for a modification to their current permit.

As described in the application, Ecolab is requesting that DAQ incorporate the recently promulgated Methyl Bromide regulations into the permit. In addition to the log fumigation operations covered under the new rule, Ecolab will also have a fruit fumigation facility and has included that proposed source in this application. The current permit also includes a phosphine limit to cover fumigation of other commodities such as tobacco. An air dispersion modeling analysis was required as part of this action in order to demonstrate compliance with the newly-established Acceptable Ambient Levels (AAL) for methyl bromide as well as the existing phosphine AAL.

As such, an electronic copy was emailed to the Raleigh central office permitting and modeling staff. Ecolab is prepared to submit the \$400 application fee via online payment once the application number has been established in your system.

If you have any questions or comments about the information presented in this letter, please do not hesitate to call me at (919) 538-3006 or email me at jhill@trinityconsultants.com.

Best Regards,

TRINITY CONSULTANTS

Jon Hill
Managing Consultant

Need
\$400
fee

Rec'd
11-30.

e-pay
selected.

HEADQUARTERS

12700 Park Central Dr, Ste 2100, Dallas, TX 75251 / P 800.229.6655 / P 972.661.8100 / F 972.385.9203

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1. INTRODUCTION

1.1 Executive Summary

Ecolab, Inc. (Ecolab) performs fumigation operations on North Carolina Port Authority property in Wilmington, New Hanover County, North Carolina.

Ecolab uses methyl bromide and phosphine to perform fumigation services of various commodities including logs, produce, and tobacco. The facility currently operates under North Carolina Department of Environmental Quality (NC DEQ) Air Permit No. 10313R02.

Ecolab is submitting this permit modification to establish new permit limits for the usage of methyl bromide and phosphine, the former in association with recently promulgated AALs. Ecolab has the potential to emit more than 10 tpy of methyl bromide and phosphine, which are hazardous air pollutants (HAPs). Ecolab will limit its total HAP emissions to below 25 tpy and each individual HAP to below 10 tpy to be classified as a synthetic minor source.

Ecolab is requesting a construction and operating permit be issued in accordance with Title 15A of North Carolina Administrative Code (15A NCAC) Chapter 2Q .0304 and 2Q .0305. In accordance with 15A NCAC 2Q .0305(b), the required number of copies (3) have been included, and the copies have been signed as required by Rule 2Q .0304(d).

The facility will be a synthetic minor source of HAPs. The permit application fee for a synthetic minor source (\$400) as required under 2Q .0203(b) will be paid via ePayment. Furthermore, as required by 2Q .0304(b)(1), a zoning consistency determination has been submitted as part of this application.

1.2 Application Contents

This application for a construction and operating permit contains the following information:

- ▶ Section 2 provides process descriptions for the emissions sources at the plant,
- ▶ Section 3 provides a federal and state regulatory applicability analysis,
- ▶ Section 4 provides the toxics modeling analysis
- ▶ Section 5 provides the applicable NC general facility permit application forms,
- ▶ Section 6 provides source specific permit application forms,
- ▶ Appendix A contains potential emission calculations,
- ▶ Appendix B contains the modeling protocol checklist, and
- ▶ Appendix C presents a copy of the local zoning consistency determination

2. BACKGROUND AND PROCESS DESCRIPTION

Ecolab operates fumigation services on North Carolina State Port Authority property in Wilmington, North Carolina. There, they fumigate various commodities including logs, tobacco, and produce.

With this permit application, Ecolab wishes to modify emission unit ES-1 and add emission unit ES-2. These emission units represent two different locations within the Port where fumigation can occur. At each location, commodities are contained and fumigated using either methyl bromide or phosphine for a predetermined amount of time. Emissions are routed through a vertical stack and out to atmosphere.

The following tables shows a breakdown of fumigant usage per commodity.

Methyl Bromide Usage by Commodity		
Oak	40.5	lb/container
Non-Oak	20.25	lb/container
Southern Yellow Pine	13.5	lb/container
Produce	150	lb/batch

Phosphine Usage by Commodity		
Tobacco	0.5	lb/container

Methyl Bromide is a volatile organic compound (VOC), and there are no other pollutants as a result of this process. As shown in the toxics modeling report in Section 4, ES-1 operation will be limited to the hours of 8am – 6pm, and ES-2 operation will be limited to the hours of 6pm – 10pm. Emission calculations assume that all emissions occur during the first hour of fumigation and that the total amount of each fumigant used is emitted through a stack and to atmosphere. Phosphine emissions will only occur at ES-1.

Appendix A shows complete emission calculations for these units.

O/C

3. REGULATORY APPLICABILITY ANALYSIS

3.1 Title V Applicability

40 CFR 70 establishes the federal Title V operating permit program. North Carolina has incorporated the provisions of this federal program in its Title V operating permit program under 15A NCAC 2Q.0500. The major source thresholds with respect to the North Carolina Title V operating permit program regulations are 10 tons per year of a single HAP, 25 tpy of any combination of HAP, and 100 tpy of certain other regulated pollutants.

Ecolab has potential uncontrolled emissions above Title V thresholds for HAPs, but as part of this application is applying for a synthetic minor HAP permit to limit emissions below these levels. Detailed emission calculations are included in Appendix A.

3.2 PSD Applicability

North Carolina has implemented the federal PSD requirements of 40 CFR 51.166 under North Carolina Regulation 15A NCAC 2D .0530. Under the PSD regulations, a major stationary source for PSD is defined as any source in one of the 28 named source categories with the potential to emit 100 tpy or more of any regulated pollutant, or any source not in one of the 28 named source categories with the potential to emit 250 tpy or more of any regulated.¹ The facility does not qualify for classification as one of the 28 listed source categories; therefore, the facility's major source threshold for PSD is 250 tpy.

As shown in Appendix A, emissions of PSD-regulated compounds are below PSD thresholds, therefore the facility is not a major stationary source in regards to the PSD regulations.

3.3 NESHAP Applicability

Potential emissions of HAPs will be limited to below the major source thresholds of 10/25 tpy for HAPs, and therefore Ecolab is a minor (area) source of HAPs. There are no applicable NESHAP regulations to the proposed project.

3.4 NSPS Applicability

There are no applicable NSPS regulations to the proposed project.

3.5 North Carolina Regulations

The applicability of key North Carolina State Implementation Plan (SIP) regulations is discussed below.

3.5.1 Control of Visible Emissions (15A NCAC 2D .0521)

This regulation outlines control requirements for visible emissions. Emission units shall not be more than 20 percent opacity when averaged over a six-minute period, except that six-minute periods

¹ 40 CFR §51.166(b)(1)(i)

averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. As there are minimal visible emissions from the site, compliance is achieved with this regulation.

3.5.2 15A NCAC 2D .0546 – Control of Emissions from Log Fumigation Operations

This regulation outlines procedures for control of emissions from log fumigation operations. Ecolab will comply with all parts of this regulation, including compliance through air toxics modeling as shown in section 4 of this application.

3.5.3 15A NCAC 2D .1100 – Control of Toxic Air Pollutant Emissions

This regulation outlines the procedures that must be followed if modeling is required under NCAC 2Q.0700. The facility emits TAPs and is performing a TAP modeling analysis as part of this application.

3.5.4 15A NCAC 2Q .0700 – Toxic Air Pollutant Procedures

This rule establishes procedures for documenting compliance for a modification that results in an increase in NC air toxics. Compliance can be demonstrated by:

1. Documenting that facility wide emissions are below the thresholds in 15A NCAC 2Q .0711
2. Netting to show there has been a no net increase in NC air toxics; or
3. Modeling to document compliance with the ambient levels in 15A NCAC 2D .1100.

The facility performed toxics modeling for Methyl Bromide and Phosphine as shown in Section 4 of this application.

While the fumigation of produce is not regulated under 2D.0546, Ecolab has modeled the fumigation of produce as it utilizes methyl bromide.

4. TAP MODELING ANALYSIS

The facility performed an air dispersion modeling analysis for the two affected TAPs, methyl bromide and phosphine, in order to demonstrate that the proposed facility will present no unacceptable risk to human health. The unacceptable risk determination is made by showing facility-wide model impacts in compliance with the Acceptable Ambient Levels (AAL) set forth in 15 NCAC 02D .1100 for the pollutants.

The modeling methodology utilized in the analysis conforms to the *Guidelines for Evaluating the Air Quality Impacts of Toxic Pollutants in North Carolina* (May 2018).² In lieu of a modeling protocol, a protocol checklist is provided in Appendix B.

4.1 Site Description

The Ecolab facility is located at 1 Shipyard Blvd, Wilmington, NC. The facility is located in New Hanover County and its approximate Universal Transverse Mercator (UTM) coordinates are 227.9 km easting and 3,788.36 km northing (Zone 17, WGS84 datum). Figure 4-1 shows an aerial map of the proposed facility location and surroundings.

² https://files.nc.gov/ncdeq/Air%20Quality/permits/mets/NC_Toxics_Guidance_rev_24May2018.pdf

Figure 4-1. Area Map of Ecolab and Surroundings



For modeling purposes the appropriate land use classification for the area was determined as rural based on a review of topographic maps and guidance provided in the *Guidelines*.

4.2 Modeled Sources and Stack Parameters

The proposed facility will perform fumigation at one of two stack locations, ES-1 or ES-2. Each stack was modeled as a point source. Since the stacks are unobstructed, vertical stacks, the actual exit parameters were modeled. Since the exit temperature was assumed to be ambient, a value of 0K was input to AERMOD to force the model always to ambient temperature. Table 4-1 summarizes the modeled locations and parameters for these sources.

Table 4-1. Modeled Source Parameters

ID	UTM-E (m)	UTM-N (m)	Elevation (m)	Stack Height (m)	Stack Temp (K)	Stack Velocity (m/s)	Stack Diameters (m)
ES-1	228129.0	3787893.0	2.82	12.19	0	14.55	0.61
ES-2	227694.9	3788351.3	2.57	12.19	0	14.55	0.61

ES-1 operations are limited to between 8am and 6pm. ES-2 operations are limited to between 6pm and 10pm. The "HROFDAY" emission factor option was used in AERMOD to restrict the stack operations to those hours.

For both short term emissions modeling (24-hr) and long term (annual), a normalized emission rate of 1 gram per second (g/s) was modeled for each of the averaging periods - 24-hour and annual for methyl bromide, and 1-hour for phosphine. The modeling concentrations from the 1 g/s runs for both TAPs were then scaled to their respective AALs to determine an allowable emission rate for each averaging period/acceptable ambient level (AAL), explained further in Section 4.6.

4.3 Model Setup and Data Sources

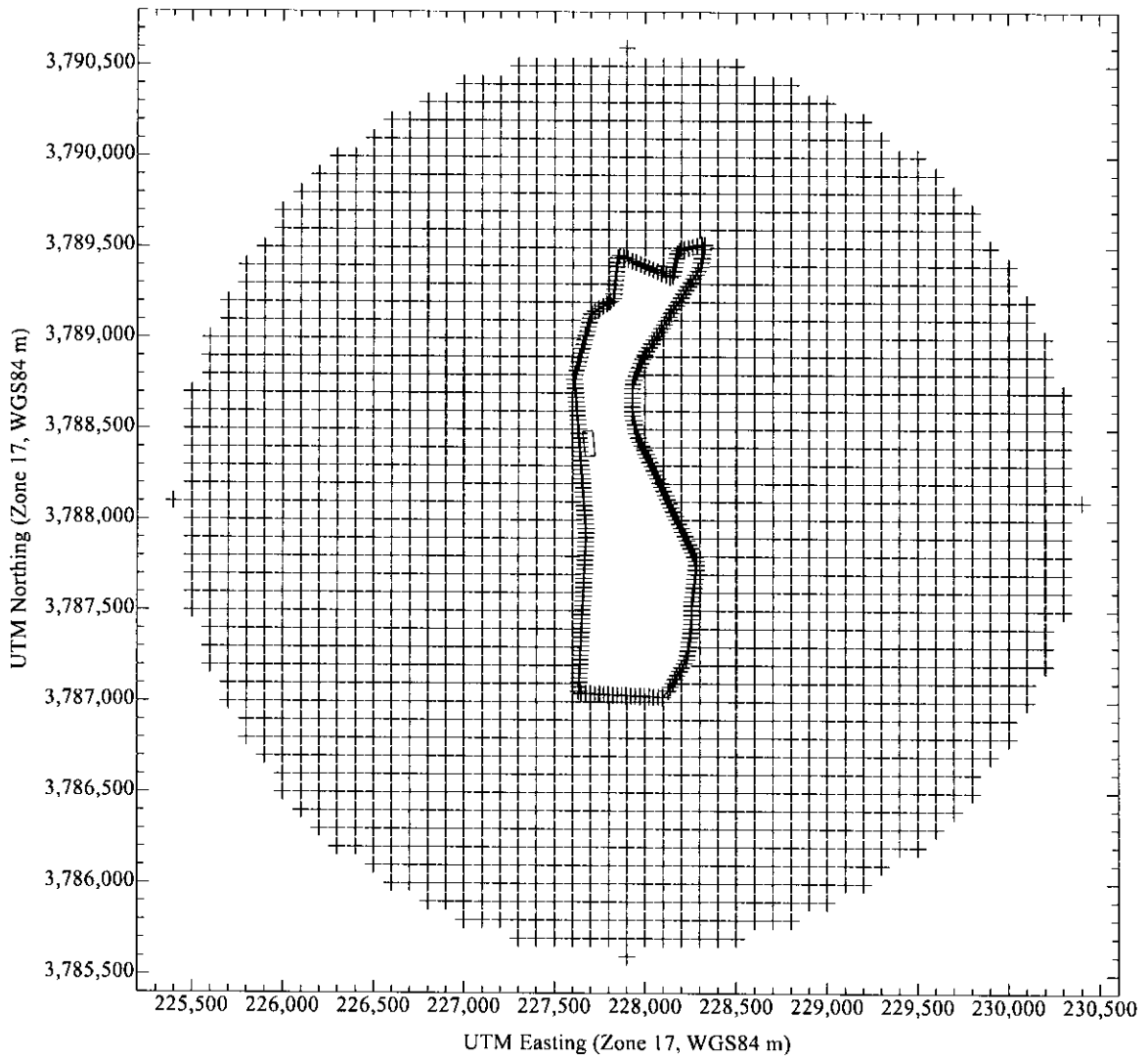
The latest AERMOD dispersion model (version 19191) was selected to calculate ambient concentrations at receptor locations off property as well as evaluate whether the cavity re-circulation zone extends off-property. AERMOD is the NC DAQ-preferred model for most refined modeling applications. AERMOD includes algorithms to calculate concentrations in the cavity re-circulation zone, which eliminates the need to use SCREEN3 for evaluation of cavity zones. AERMOD is also able to estimate impacts at simple, intermediate, and complex terrain receptors, thus eliminating the need to use multiple dispersion models for the analysis.

Receptors at 25-m spacing were placed along the boundary of the Port property. Beyond the boundary receptors, a Cartesian receptor grid with a receptor spacing of 100-m extending approximately 2 km from the facility in all directions was included (as shown in Figure 4-3). Modeled impacts were reviewed to ensure that the maximum concentrations were captured within the receptor grid.

Terrain elevations for each receptor were identified using the latest AERMAP preprocessor (version 18081) and USGS National Elevation Data (NED) digital elevation data with 1 arcsecond (approximately 30 m) resolution. AERMAP was also used to identify the base elevations for all stacks and structures input to the model.

Figure 4-3 presents the modeled receptor grid for the facility.

Figure 4-3. Modeled Receptor Grid



4.4 Meteorological Data

Per the recent Air Quality Analysis Branch guidance, modeling was performed using Wilmington International Airport meteorological data. Meteorological data was processed with the ADJ_U* option, as the preliminary modeling indicated that the short-term concentrations were occurring during low wind speed and/or stable atmospheric conditions.³ The base elevation of the meteorological site (12 m) was used for the potential temperature profile calculations.⁴ Five years (2014-2018) of data were used to estimate the maximum modeled impacts from the facility.

4.5 Building Downwash

AERMOD incorporates the Plume Rise Model Enhancements (PRIME) downwash algorithms. Direction specific building parameters required by AERMOD are calculated using the BPIP-PRIME preprocessor (version 04274).

EPA has promulgated stack height regulations that restrict the use of stack heights in excess of "Good Engineering Practice" (GEP) in air dispersion modeling analyses. Under these regulations, that portion of a stack in excess of the GEP height is generally not creditable when modeling to determine source impacts. This essentially prevents the use of excessively tall stacks to reduce ground-level pollutant concentrations. The minimum stack height not subject to the effects of downwash, called the GEP stack height, is defined by the following formula:

$HGEP = H + 1.5L$, where:

HGEP = minimum GEP stack height,
H = structure height, and
L = lesser dimension of the structure (height or projected width).

This equation is limited to stacks located within 5L of a structure. Stacks located at a distance greater than 5L are not subject to the wake effects of the structure. The wind direction-specific downwash dimensions and the dominant downwash structures used in this analysis are determined using BPIP. In general, the lowest GEP stack height for any source is 65 meters by default. None of the proposed emission units at the Port facility will exceed GEP height.

Figure 4-1 includes the source and building arrangement as modeled. The electronic BPIP input and output files will be included on the modeling file FTP Site.

³ ADJ_U* Meteorological Data for ILM provided via email from Matthew Porter (NCDAQ) to Jonathan Hill (Trinity) on March 17, 2020.

⁴ https://files.nc.gov/ncdeq/Air%20Quality/permits/mets/ProfileBaseElevations_2018.pdf

4.6 Modeling Results

Table 4-4 and Table 4-5 summarize the TAP modeling impacts at 1 g/s for each source, showing the conversion to 99% of the respective AALs. Table 4-6 and Table 4-7 summarize the final modeling impacts.

The highest 1-hour and 24-hour concentrations over the 2014-2018 meteorological data period were used. The maximum annual concentration over the individual meteorological years (2018 for ES-1 and 2014 for ES-2) was used. The requested daily permit limits are calculated by ratio of the normalized emission rate and normalized modeling impact versus 99% of the AAL. Daily limits were determined by multiplying the allowable pound per hour (lb/hr) values by 10 hours per day for ES-1 and 4 hours per day for ES-2. Annual limits assume this same operation, for 365 days per year. Maximum concentrations for all pollutants occur at or near the boundary receptors and were limited such that the Ecolab facility will comply with the AALs for all triggered pollutants. Based on that, the proposed facility will not present any unacceptable risk to human health.

Electronic copies of model input and output files will be provided via secure FTP transfer upon request by AQAB.

Table 4-4. ES-1 Normalized Modeling Results

Pollutant	Averaging Period	Normalized Emission Rate (g/s)	Normalized Modeling Impact (ug/m3)	AAL (ug/m3)	99% of AAL
Methyl Bromide	24-hr	1	29.97	1000	990
Methyl Bromide	Annual	1	2.95	5	4.95
Phosphine	1-hr	1	358.59	130	128.7

Table 4-5. ES-2 Normalized Modeling Results

Pollutant	Averaging Period	Normalized Emission Rate (g/s)	Normalized Modeling Impact (ug/m3)	AAL (ug/m3)	99% of AAL
Methyl Bromide	24-hr	1	76.04	1000	990
Methyl Bromide	Annual	1	6.03	5	4.95

Table 4-6. ES-1 Modeling Results

Pollutant	Averaging Period	UTM-E (m)	UTM-N (m)	Maximum Concentration	Date/Year Occurred	Requested Permit Limit
Methyl Bromide	24-hr	228174.8	3788001.7	990	10/31/2018	2,620.8 lb/day
Methyl Bromide	Annual	228200	3788000	4.95	2018	48,641.5 lb/yr
Phosphine	1-hr	228278.8	3787727.1	128.7	12/13/2015 9:00	2.9 lb/hr

Table 4-7. ES-2 Modeling Results

Pollutant	Averaging Period	UTM-E (m)	UTM-N (m)	Maximum Concentration	Date/Year Occurred	Requested Permit Limit
Methyl Bromide	24-hr	227,631.7	3,788,501	990	02/18/2014	413.3 lb/day
Methyl Bromide	Annual	227,631.7	3,788,501	4.95	2014	9,506.6 lb/yr

5. GENERAL FACILITY PERMIT APPLICATION FORMS

This section contains DEQ permit application forms for the general facility and proposed changes.

FACILITY FORMS

- Form A – Facility (General Information)
- Form A2 – Emission Source Listing
- Form A3 – 112(r) Applicability Information
- Form D1 – Facility-wide Emissions Summary

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Need \$400 fee

FORM A

GENERAL FACILITY INFORMATION

REVISED 09/22/16

NCDEQ/Division of Air Quality - Application for Air Permit to Construct/Operate

A

NOTE- APPLICATION WILL NOT BE PROCESSED WITHOUT THE FOLLOWING:

X	Local Zoning Consistency Determination (new or modification only)	<input checked="" type="checkbox"/>	Appropriate Number of Copies of Application	Application Fee (please check one option below) <input type="checkbox"/> Not Required <input checked="" type="checkbox"/> ePayment <input type="checkbox"/> Check Enclosed
X	Responsible Official/Authorized Contact Signature	<input checked="" type="checkbox"/>	P.E. Seal (if required)	

GENERAL INFORMATION

Legal Corporate/Owner Name: Ecolab, Inc.

Site Name: North Carolina State Port Authority

Site Address (911 Address) Line 1: 1 Shipyard Blvd

Site Address Line 2:

City: Wilmington State: NC

Zip Code: 28401 County: New Hanover

CONTACT INFORMATION

Responsible Official/Authorized Contact:		Invoice Contact:	
Name/Title: John Achzet/Regional Manager		Name/Title: Alison Marwitz/Senior Regulatory Specialist	
Mailing Address Line 1: 53 McCullough Dr		Mailing Address Line 1: 655 Lone Oak Rd	
Mailing Address Line 2:		Mailing Address Line 2:	
City: New Castle	State: DE	Zip Code: 19720	City: Eagan State: MN Zip Code: 55121
Primary Phone No.: 302-218-6375	Fax No.:	Primary Phone No.: 651-795-5715	Fax No.:
Secondary Phone No.:		Secondary Phone No.:	
Email Address: john.achzet@ecolab.com		Email Address: alison.marwitz@ecolab.com	

Facility/Inspection Contact:		Permit/Technical Contact:	
Name/Title: James Fealey/District Manager		Name/Title: James Fealey/District Manager	
Mailing Address Line 1: 53 McCullough Dr		Mailing Address Line 1: 53 McCullough Dr	
Mailing Address Line 2:		Mailing Address Line 2:	
City: New Castle	State: DE	Zip Code: 19720	City: Lincolnton State: NC Zip Code: 28092
Primary Phone No.: 302-322-3600	Fax No.:	Primary Phone No.: 302-322-3600	Fax No.:
Secondary Phone No.:		Secondary Phone No.:	
Email Address: james.fealey@ecolab.com		Email Address: james.fealey@ecolab.com	

APPLICATION IS BEING MADE FOR

New Non-permitted Facility/Greenfield Modification of Facility (permitted) Renewal Title V Renewal Non-Title V

Name Change Ownership Change Administrative Amendment Renewal with Modification

FACILITY CLASSIFICATION AFTER APPLICATION (Check Only One)

General Small Prohibitory Small Synthetic Minor Title V

FACILITY (Plant Site) INFORMATION

Describe nature of (plant site) operation(s): Fumigation services for logs, produce, and other commodities using Methyl Bromide and Phosphine.

Facility ID No. 6500356

Primary SIC/NAICS Code: 7342 Current/Previous Air Permit No. 10313R01 Expiration Date: N/A

Facility Coordinates: Latitude: Longitude:

Does this application contain confidential data? YES NO ***If yes, please contact the DAQ Regional Office prior to submitting this application.*** (See Instructions)

PERSON OR FIRM THAT PREPARED APPLICATION

Person Name: Trevor Peters	Firm Name: Trinity Consultants		
Mailing Address Line 1: One Copley Parkway, Suite 205	Mailing Address Line 2:		
City: Morrisville	State: NC	Zip Code: 27560	County: Wake
Phone No.: 919 462 9693	Fax No.:	Email Address: tpeters@trinityconsultants.com	

SIGNATURE OF RESPONSIBLE OFFICIAL/AUTHORIZED CONTACT

Name: John Achzet Title: Regional Manager

X Signature (Blue Ink): *John Achzet* Date: 11/09/20

Attach Additional Sheets As Necessary

FORM A (continued, page 2 of 2)
GENERAL FACILITY INFORMATION

REVISED 09/22/16

NCDEQ/Division of Air Quality - Application for Air Permit to Construct/Operate

A

SECTION AA1 - APPLICATION FOR NON-TITLE V PERMIT RENEWAL

_____ (Company Name) hereby formally requests renewal of Air Permit No. _____
There have been no modifications to the originally permitted facility or the operations therein that would require an air permit since the last permit was issued.
Is your facility subject to 40 CFR Part 68 "Prevention of Accidental Releases" - Section 112(r) of the Clean Air Act? YES NO
If yes, have you already submitted a Risk Management Plan (RMP) to EPA? YES NO Date Submitted: _____
Did you attach a current emissions inventory? YES NO
If no, did you submit the inventory via AERO or by mail? V. AERO Mailed Date Mailed: _____

SECTION AA2 - APPLICATION FOR TITLE V PERMIT RENEWAL

In accordance with the provisions of Title 15A 2Q .0513, the responsible official of _____ (Company Name) hereby formally requests renewal of Air Permit No. _____ (Air Permit No.) and further certifies that:

- (1) The current air quality permit identifies and describes all emissions units at the above subject facility, except where such units are exempted under the North Carolina Title V regulations at 15A NCAC 2Q .0500;
- (2) The current air quality permit cites all applicable requirements and provides the method or methods for determining compliance with the applicable requirements;
- (3) The facility is currently in compliance, and shall continue to comply, with all applicable requirements. (Note: As provided under 15A NCAC 2Q .0512 compliance with the conditions of the permit shall be deemed compliance with the applicable requirements specifically identified in the permit);
- (4) For applicable requirements that become effective during the term of the renewed permit that the facility shall comply on a timely basis;
- (5) The facility shall fulfill applicable enhanced monitoring requirements and submit a compliance certification as required by 40 CFR Part 64.

The responsible official (signature on page 1) certifies under the penalty of law that all information and statements provided above, based on information and belief formed after reasonable inquiry, are true, accurate, and complete.

SECTION AA3 - APPLICATION FOR NAME CHANGE

New Facility Name: _____
Former Facility Name: _____
An official facility name change is requested as described above for the air permit mentioned on page 1 of this form. Complete the other sections if there have been modifications to the originally permitted facility that would require an air quality permit since the last permit was issued and if there has been an ownership change associated with this name change.

SECTION AA4 - APPLICATION FOR AN OWNERSHIP CHANGE

By this application we hereby request transfer of Air Quality Permit No. _____ from the former owner to the new owner as described below. The transfer of permit responsibility, coverage and liability shall be effective _____ (immediately or insert date.) The legal ownership of the facility described on page 1 of this form has been or will be transferred on _____ (date). There have been no modifications to the originally permitted facility that would require an air quality permit since the last permit was issued.

Signature of New (Buyer) Responsible Official/Authorized Contact (as typed on page 1):

X Signature (Blue Ink): _____

Date: _____

New Facility Name: _____

Former Facility Name: _____

Signature of Former (Seller) Responsible Official/Authorized Contact:

Name (typed or print): _____

Title: _____

X Signature (Blue Ink): _____

Date: _____

Former Legal Corporate/Owner Name: _____

In lieu of the seller's signature on this form, a letter may be submitted with the seller's signature indicating the ownership change

SECTION AA5 - APPLICATION FOR ADMINISTRATIVE AMENDMENT

Describe the requested administrative amendment here (attach additional documents as necessary):

Attach Additional Sheets As Necessary

Page 2 of 2

FORMs A2, A3
EMISSION SOURCE LISTING FOR THIS APPLICATION - A2
112r APPLICABILITY INFORMATION - A3

REVISED 09/22/16

NCDEQ/Division of Air Quality - Application for Air Permit to Construct/Operate

A2

EMISSION SOURCE LISTING: New, Modified, Previously Unpermitted, Replaced, Deleted

EMISSION SOURCE ID NO.	EMISSION SOURCE DESCRIPTION	CONTROL DEVICE ID NO.	CONTROL DEVICE DESCRIPTION
Equipment To Be ADDED By This Application (New, Previously Unpermitted, or Replacement)			
ES-2	Fumigation Process	N/A	N/A
Existing Permitted Equipment To Be MODIFIED By This Application			
ES-1	Fumigation Process	N/A	N/A
Equipment To Be DELETED By This Application			
N/A			

112(r) APPLICABILITY INFORMATION

A 3

Is your facility subject to 40 CFR Part 68 "Prevention of Accidental Releases" - Section 112(r) of the Federal Clean Air Act? Yes No
 If No, please specify in detail how your facility avoided applicability: Below applicable thresholds

If your facility is Subject to 112(r), please complete the following:
 A. Have you already submitted a Risk Management Plan (RMP) to EPA Pursuant to 40 CFR Part 68.10 or Part 68.150?
 Yes No Specify required RMP submittal date: _____ If submitted, RMP submittal date: _____
 B. Are you using administrative controls to subject your facility to a lesser 112(r) program standard?
 Yes No If yes, please specify: _____
 C. List the processes subject to 112(r) at your facility: _____

PROCESS DESCRIPTION	PROCESS LEVEL (1, 2, or 3)	HAZARDOUS CHEMICAL	MAXIMUM INTENDED INVENTORY (LBS)

Attach Additional Sheets As Necessary

FORM D1

FACILITY-WIDE EMISSIONS SUMMARY

REVISED 09/22/16

NCDEQ/Division of Air Quality - Application for Air Permit to Construct/Operate

D1

CRITERIA AIR POLLUTANT EMISSIONS INFORMATION - FACILITY-WIDE

	EXPECTED ACTUAL EMISSIONS (AFTER CONTROLS / LIMITATIONS)	POTENTIAL EMISSIONS (BEFORE CONTROLS / LIMITATIONS)	POTENTIAL EMISSIONS (AFTER CONTROLS / LIMITATIONS)
AIR POLLUTANT EMITTED	tons/yr	tons/yr	tons/yr
PARTICULATE MATTER (PM)			
PARTICULATE MATTER < 10 MICRONS (PM ₁₀)			
PARTICULATE MATTER < 2.5 MICRONS (PM _{2.5})			
SULFUR DIOXIDE (SO ₂)			
NITROGEN OXIDES (NO _x)			
CARBON MONOXIDE (CO)			
VOLATILE ORGANIC COMPOUNDS (VOC)	< 10	< 10	< 10
LEAD			
GREENHOUSE GASES (GHG) (SHORT TONS)			
OTHER			

HAZARDOUS AIR POLLUTANT EMISSIONS INFORMATION - FACILITY-WIDE

		EXPECTED ACTUAL EMISSIONS (AFTER CONTROLS / LIMITATIONS)	POTENTIAL EMISSIONS (BEFORE CONTROLS / LIMITATIONS)	POTENTIAL EMISSIONS (AFTER CONTROLS / LIMITATIONS)
HAZARDOUS AIR POLLUTANT EMITTED	CAS NO.	tons/yr	tons/yr	tons/yr
Methyl Bromide		< 10	< 10	< 10
Phosphine		5.29	5.29	5.29

TOXIC AIR POLLUTANT EMISSIONS INFORMATION - FACILITY-WIDE

INDICATE REQUESTED ACTUAL EMISSIONS AFTER CONTROLS / LIMITATIONS. EMISSIONS ABOVE THE TOXIC PERMIT EMISSION RATE (TPER) IN 15A NCAC 2Q .0711 MAY REQUIRE AIR DISPERSION MODELING. USE NETTING FORM D2 IF NECESSARY.

TOXIC AIR POLLUTANT EMITTED	CAS NO.	lb/hr	lb/day	lb/year	Modeling Required ?	
					Yes	No
Methyl Bromide	See Modeling Analysis Section 4 of application				X	
Phosphine					X	

COMMENTS:

6. SOURCE SPECIFIC PERMIT APPLICATION FORMS

This section contains the NCDAQ permit application forms for the proposed emission units

EMISSION UNIT FORMS

- ▶ ES-1
 - Form B - Specific Emissions Source Information
 - Form B9 - Emission Source-Other

- ▶ ES-2
 - Form B - Specific Emissions Source Information
 - Form B9 - Emission Source-Other

FORM B

SPECIFIC EMISSION SOURCE INFORMATION (REQUIRED FOR ALL SOURCES)

REVISED 09/22/16

NCDEQ/Division of Air Quality - Application for Air Permit to Construct/Operate

B

EMISSION SOURCE DESCRIPTION: Fumigation	EMISSION SOURCE ID NO: ES-1
OPERATING SCENARIO <u>1</u> OF <u>1</u>	CONTROL DEVICE ID NO(S): N/A
EMISSION POINT (STACK) ID NO(S): EP-1	

DESCRIBE IN DETAIL THE EMISSION SOURCE PROCESS (ATTACH FLOW DIAGRAM):

Fumigation operations of various commodities using Methyl Bromide and Phosphine.

TYPE OF EMISSION SOURCE (CHECK AND COMPLETE APPROPRIATE FORM B1-B9 ON THE FOLLOWING PAGES):

- | | | |
|---|---|--|
| <input type="checkbox"/> Coal, wood, oil, gas, other burner (Form B1) | <input type="checkbox"/> Woodworking (Form B4) | <input type="checkbox"/> Manuf. of chemicals/coatings/inks (Form B7) |
| <input type="checkbox"/> Int. combustion engine/generator (Form B2) | <input type="checkbox"/> Coating/finishing/printing (Form B5) | <input type="checkbox"/> Incineration (Form B8) |
| <input type="checkbox"/> Liquid storage tanks (Form B3) | <input type="checkbox"/> Storage silos/bins (Form B6) | <input checked="" type="checkbox"/> Other (Form B9) |

START CONSTRUCTION DATE: End 2020	DATE MANUFACTURED: N/A
MANUFACTURER / MODEL NO.: N/A	EXPECTED OP. SCHEDULE: <u>10</u> HR/DAY <u>7</u> DAY/WK <u>52</u> WK/YR

IS THIS SOURCE SUBJECT TO? NSPS (SUBPARTS?): NESHAP (SUBPARTS?):

PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB 25 MAR-MAY 25 JUN-AUG 25 SEP-NOV 25

CRITERIA AIR POLLUTANT EMISSIONS INFORMATION FOR THIS SOURCE

AIR POLLUTANT EMITTED	SOURCE OF EMISSION FACTOR	EXPECTED ACTUAL		POTENTIAL EMISSIONS			
		(AFTER CONTROLS / LIMITS)		(BEFORE CONTROLS / LIMITS)		(AFTER CONTROLS / LIMITS)	
		lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)	-	-	-	-	-	-	-
PARTICULATE MATTER <10 MICRONS (PM ₁₀)	-	-	-	-	-	-	-
PARTICULATE MATTER <2.5 MICRONS (PM _{2.5})	-	-	-	-	-	-	-
SULFUR DIOXIDE (SO ₂)	-	-	-	-	-	-	-
NITROGEN OXIDES (NO _x)	-	-	-	-	-	-	-
CARBON MONOXIDE (CO)	-	-	-	-	-	-	-
VOLATILE ORGANIC COMPOUNDS (VOC)	02	< 10	< 10	< 10	< 10	< 10	< 10
LEAD	-	-	-	-	-	-	-
OTHER	-	-	-	-	-	-	-

HAZARDOUS AIR POLLUTANT EMISSIONS INFORMATION FOR THIS SOURCE

HAZARDOUS AIR POLLUTANT	CAS NO.	SOURCE OF EMISSION FACTOR	EXPECTED ACTUAL		POTENTIAL EMISSIONS			
			(AFTER CONTROLS / LIMITS)		(BEFORE CONTROLS / LIMITS)		(AFTER CONTROLS / LIMITS)	
			lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
Methyl Bromide	NA	02	< 10	< 10	< 10	< 10	< 10	< 10
Phosphine	NA	02	2.90	5.29	2.90	5.29	2.90	5.29

TOXIC AIR POLLUTANT EMISSIONS INFORMATION FOR THIS SOURCE

TOXIC AIR POLLUTANT	CAS NO.	SOURCE OF EMISSION FACTOR	EXPECTED ACTUAL EMISSIONS AFTER CONTROLS / LIMITATIONS		
			lb/hr	lb/day	lb/yr
Methyl Bromide	NA	02	2620.8	< 20,000	< 20,000
Phosphine	NA	02	3	29	10585

Attachments: (1) emissions calculations and supporting documentation; (2) indicate all requested state and federal enforceable permit limits (e.g. hours of operation, emission rates) and describe how these are monitored and with what frequency; and (3) describe any monitoring devices, gauges, or test ports for this source.

COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE B1 THROUGH B9 FORM FOR EACH SOURCE
Attach Additional Sheets As Necessary

FORM B9

EMISSION SOURCE (OTHER)

REVISED 09/22/16

NCDEQ/Division of Air Quality - Application for Air Permit to Construct/Operate

B9

EMISSION SOURCE DESCRIPTION: Fumigation	EMISSION SOURCE ID NO: ES-1
OPERATING SCENARIO <u>1</u> OF <u>1</u>	CONTROL DEVICE ID NO(S): N/A
EMISSION POINT (STACK) ID NO(S): EP-1	

DESCRIBE IN DETAIL THE EMISSION SOURCE PROCESS (ATTACH FLOW DIAGRAM):
 Fumigation operations of various commodities using Methyl Bromide and Phosphine.

MATERIALS ENTERING PROCESS - CONTINUOUS PROCESS		MAX. DESIGN CAPACITY (UNIT/HR)	REQUESTED CAPACITY LIMITATION (UNIT/HR)
TYPE	UNITS		

MATERIALS ENTERING PROCESS - BATCH OPERATION		MAX. DESIGN CAPACITY (UNIT/BATCH)	REQUESTED CAPACITY LIMITATION (UNIT/BATCH)
TYPE	UNITS		
Methyl Bromide	lbs	2620.8	2620.8
Phosphine	lbs	3	3

MAXIMUM DESIGN (BATCHES / HOUR): TBD based on batch size	
REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/YR):
FUEL USED: N/A	TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR):
MAX. CAPACITY HOURLY FUEL USE:	REQUESTED CAPACITY ANNUAL FUEL USE:

COMMENTS:

Attach Additional Sheets as Necessary

FORM B

SPECIFIC EMISSION SOURCE INFORMATION (REQUIRED FOR ALL SOURCES)

REVISED 09/22/16

NCDEQ/Division of Air Quality - Application for Air Permit to Construct/Operate

B

EMISSION SOURCE DESCRIPTION: Fumigation	EMISSION SOURCE ID NO: ES-2
	CONTROL DEVICE ID NO(S): N/A
OPERATING SCENARIO <u>1</u> OF <u>1</u>	EMISSION POINT (STACK) ID NO(S): EP-2

DESCRIBE IN DETAIL THE EMISSION SOURCE PROCESS (ATTACH FLOW DIAGRAM):

Fumigation operations of various commodities using Methyl Bromide and Phosphine.

TYPE OF EMISSION SOURCE (CHECK AND COMPLETE APPROPRIATE FORM B1-B9 ON THE FOLLOWING PAGES):

- | | | |
|---|---|--|
| <input type="checkbox"/> Coal, wood, oil, gas, other burner (Form B1) | <input type="checkbox"/> Woodworking (Form B4) | <input type="checkbox"/> Manuf. of chemicals/coatings/inks (Form B7) |
| <input type="checkbox"/> Int. combustion engine/generator (Form B2) | <input type="checkbox"/> Coating/finishing/printing (Form B5) | <input type="checkbox"/> Incineration (Form B8) |
| <input type="checkbox"/> Liquid storage tanks (Form B3) | <input type="checkbox"/> Storage silos/bins (Form B6) | <input checked="" type="checkbox"/> Other (Form B9) |

START CONSTRUCTION DATE: End 2020	DATE MANUFACTURED: N/A
MANUFACTURER / MODEL NO.: N/A	EXPECTED OP. SCHEDULE: <u>4</u> HR/DAY <u>7</u> DAY/WK <u>52</u> WK/YR
IS THIS SOURCE SUBJECT TO? <input type="checkbox"/> NSPS (SUBPARTS?): _____ <input type="checkbox"/> NESHAP (SUBPARTS?): _____	
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB <u>25</u> MAR-MAY <u>25</u> JUN-AUG <u>25</u> SEP-NOV <u>25</u>	

CRITERIA AIR POLLUTANT EMISSIONS INFORMATION FOR THIS SOURCE

AIR POLLUTANT EMITTED	SOURCE OF EMISSION FACTOR	EXPECTED ACTUAL		POTENTIAL EMISSIONS			
		(AFTER CONTROLS / LIMITS)		(BEFORE CONTROLS / LIMITS)		(AFTER CONTROLS / LIMITS)	
		lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)	-	-	-	-	-	-	-
PARTICULATE MATTER <10 MICRONS (PM ₁₀)	-	-	-	-	-	-	-
PARTICULATE MATTER <2.5 MICRONS (PM _{2.5})	-	-	-	-	-	-	-
SULFUR DIOXIDE (SO ₂)	-	-	-	-	-	-	-
NITROGEN OXIDES (NO _x)	-	-	-	-	-	-	-
CARBON MONOXIDE (CO)	-	-	-	-	-	-	-
VOLATILE ORGANIC COMPOUNDS (VOC)	02	< 10	< 10	< 10	< 10	< 10	< 10
LEAD	-	-	-	-	-	-	-
OTHER	-	-	-	-	-	-	-

HAZARDOUS AIR POLLUTANT EMISSIONS INFORMATION FOR THIS SOURCE

HAZARDOUS AIR POLLUTANT	CAS NO.	SOURCE OF EMISSION FACTOR	EXPECTED ACTUAL		POTENTIAL EMISSIONS			
			(AFTER CONTROLS / LIMITS)		(BEFORE CONTROLS / LIMITS)		(AFTER CONTROLS / LIMITS)	
			lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
Methyl Bromide	NA	02	< 10	< 10	< 10	< 10	< 10	< 10

TOXIC AIR POLLUTANT EMISSIONS INFORMATION FOR THIS SOURCE

TOXIC AIR POLLUTANT	CAS NO.	SOURCE OF EMISSION FACTOR	EXPECTED ACTUAL EMISSIONS AFTER CONTROLS / LIMITATIONS		
			lb/hr	lb/day	lb/yr
Methyl Bromide	NA	02	413	< 20,000	< 20,000

Attachments: (1) emissions calculations and supporting documentation; (2) indicate all requested state and federal enforceable permit limits (e.g. hours of operation, emission rates) and describe how these are monitored and with what frequency; and (3) describe any monitoring devices, gauges, or test ports for this source.

COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE B1 THROUGH B9 FORM FOR EACH SOURCE
Attach Additional Sheets As Necessary

FORM B9

EMISSION SOURCE (OTHER)

REVISED 09/22/16

NCDEQ/Division of Air Quality - Application for Air Permit to Construct/Operate

B9

EMISSION SOURCE DESCRIPTION: Fumigation	EMISSION SOURCE ID NO: ES-2
OPERATING SCENARIO <u>1</u> OF <u>1</u>	CONTROL DEVICE ID NO(S): N/A
EMISSION POINT (STACK) ID NO(S): EP-2	

DESCRIBE IN DETAIL THE EMISSION SOURCE PROCESS (ATTACH FLOW DIAGRAM):
 Fumigation operations of various commodities using Methyl Bromide and Phosphine.

MATERIALS ENTERING PROCESS - CONTINUOUS PROCESS		MAX. DESIGN CAPACITY (UNIT/HR)	REQUESTED CAPACITY LIMITATION(UNIT/HR)
TYPE	UNITS		

MATERIALS ENTERING PROCESS - BATCH OPERATION		MAX. DESIGN CAPACITY (UNIT/BATCH)	REQUESTED CAPACITY LIMITATION (UNIT/BATCH)
TYPE	UNITS		
Methyl Bromide	lbs	413	413

MAXIMUM DESIGN (BATCHES / HOUR): TBD based on batch size	
REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/YR):
FUEL USED: N/A	TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR):
MAX. CAPACITY HOURLY FUEL USE:	REQUESTED CAPACITY ANNUAL FUEL USE:

COMMENTS:

APPENDIX A. EMISSION CALCULATIONS

Potential Emission Calculations

Emission Units: ES-1 and ES-2

Methyl Bromide Usage per Container of Commodity		
Oak	40.5	lb/container
Non-Oak	20.25	lb/container
Southern Yellow Pine	13.5	lb/container
Produce	150	lb/batch

ES-1 Fumigation		
Daily Operating Hours ¹	10	hrs
Max Potential Methyl Bromide ²	2620.8	lb/day
	10	tpy
Max Potential Phosphine	2.9	lb/hr
	5.29	tpy

¹ ES-1 limited to operation from 8am - 6pm, a total of 10 hours per day 365 days per year.

² Minor source limit of 10 tpy of individual HAP.

ES-2 Fumigation		
Daily Operating Hours ³	4	hrs
Max Potential Methyl Bromide ⁴	413	lb/day
	10	tpy

³ ES-2 limited to operation from 6pm - 10pm, a total of 4 hours per day 365 days per year.

⁴ Minor source limit of 10 tpy of individual HAP.

APPENDIX B. MODELING FILES

A.1

North Carolina Modeling Protocol Checklist

The North Carolina Modeling Protocol Checklist may be used in lieu of developing the traditional written modeling plan for North Carolina toxics and criteria pollutant modeling. The protocol checklist is designed to provide the same level of information as requested in a modeling protocol as discussed in Chapter 2 of the *Guideline for Evaluating the Air Quality Impacts of Toxic Pollutants in North Carolina*. The modeling protocol checklist is submitted with the modeling analysis.

Although most of the information requested in the modeling protocol checklist is self explanatory, additional comments are provided, where applicable, and are discussed in greater detail in the toxics modeling guidelines referenced above. References to sections, tables, figures, appendices, etc., in the protocol checklist are found in the toxics modeling guidelines.

INSTRUCTIONS: The modeling report supporting the compliance demonstration should include most of the information listed below. As appropriate, answer the following questions or indicate by check mark the information provided or action taken is reflected in your report.

FACILITY INFORMATION	
Name: Ecolab, Inc. Facility ID: 6500358 Address: 1 Shipyard Blvd Wilmington, NC 28401	Consultant (if applicable): Trinity Consultants One Copley Parkway Suite 205 Morrisville, NC 27560
Contact Name: James Fealey	Contact Name: Jon Hill
Phone Number: 302-322-3600 Email: james.fealey@ecolab.com	Phone Number: 919.462.9693 Email: jhill@trinityconsultants.com
GENERAL	
Description of New Source or Source / Process Modification: provide a short description of the new or modified source(s) and a brief discussion of how this change affects facility production or process operation.	X
Source / Pollutant Identification: provide a table of the affected pollutants, by source, which identifies the source type (point, area, or volume), maximum pollutant emission rates over the applicable averaging period(s), and, for point sources, indicate if the stack is capped or non-vertical (C/N).	X
Pollutant Emission Rate Calculations: indicate how the pollutant emission rates were derived (e.g., AP-42, mass balance, etc.) and where applicable, provide the calculations.	X
Site / Facility Diagram: provide a diagram or drawing showing the location of all existing and proposed emission sources, buildings or structures, public right-of-ways, and the facility property (toxics) / fence line (criteria pollutants) boundaries. The diagram should also include a scale, true north indicator, and the UTM or latitude/longitude of at least one point.	X
Certified Plat or Signed Survey: a certified plat (map) from the County Register of Deeds or a signed survey must be submitted to validate property boundaries modeled.	X
Topographic Map: A topographic map covering approximately 5km around the facility must be submitted. The facility boundaries should be annotated on the map as accurately as possible.	X
Cavity Impact Analysis: If using SCREEN3, a cavity impact analysis must be conducted for all structures with a region of influence extending to one or more sources modeled to determine if cavity regions extend off property (toxics) or beyond the fence line (criteria pollutants). No separate cavity analysis is required if using AERMOD. See Section 4.2	N/A

GENERAL (continued)	
Background Concentrations (criteria pollutant analyses only): Background concentrations must be determined for each pollutant for each averaging period evaluated. The averaged background value used (e.g., high, high-second-high, high-third-high, etc.) is based on the pollutant and averaging period evaluated. The background concentrations are added to the modeled concentrations, which are then compared to the applicable air quality standard to determine compliance.	NA
Offsite Source Inventories (criteria pollutant analyses only): Offsite source inventories must be developed and modeled for all pollutants for which onsite sources emissions are modeled in excess of the specific pollutant significant impact levels (SILs) as defined in the PSD New Source Review Workshop Manual. The DAQ AQAB must approve the inventories. An initial working inventory can be requested from the AQAB.	NA

SCREEN LEVEL MODELING	
Model: The latest version of the SCREEN3 model must be used until AERSCREEN is developed and approved. The use of other screening models should be approved by NCDAQ prior to submitting the modeling report.	NA
Source / Source emission parameters: Provide a table listing the sources modeled and the applicable source emission parameters. <i>See NC Form 3 – Appendix A.</i>	NA
Merged Sources: Identify merged sources and show all appropriate calculations. <i>See Section 3.3</i>	NA
GEP Analysis: SCREEN3 – for each source modeled, show all calculations identifying the critical structure used in the model run. <i>See section 3.2 and NC Form 1 - Appendix A.</i>	NA
Cavity Impact Analysis: A cavity impact analysis using SCREEN3 must be conducted for all structures with a region of influence extending to one or more sources modeled to determine if cavity regions extend off property (toxics) or beyond the fence line (criteria pollutants). <i>See Section 4.2</i>	NA
Terrain: Indicate the terrain modeled: simple (<i>Section 4.4</i>), and complex (<i>Section 4.5 and NC Form 4 – Appendix A</i>). If complex terrain is within 5 kilometers of the facility, complex terrain must be evaluated. Simple terrain must include terrain elevations if any terrain is greater than the stack base of any source modeled. Simple: _____ Complex: _____	
Meteorology: In SCREEN3, select full meteorology.	NA
Receptors: SCREEN3 – use shortest distance to property boundary for each source modeled and use sufficient range to find maximum (<i>See Section 4.1 (i) and (j)</i>). Terrain above stack base must be evaluated.	NA
Modeling Results: For each affected pollutant, modeling results should be summarized, converted to the applicable averaging period (<i>See Table 3</i>), and presented in tabular format indicating compliance status with the applicable AAL, SIL or NAAQS. <i>See NC Form S5 – Appendix A.</i>	NA
Modeling Files: Either electronic or hard copies of SCREEN3 output must be submitted.	NA

REFINED LEVEL MODELING

<p>Model: The latest version of AERMOD should be used, and may be found at http://www.epa.gov/scram001/dispersion_prefrec.htm. The use of other refined models must be approved by NCDAQ prior to submitting the modeling report.</p>	X
<p>Source / Source emission parameters: Provide a table listing the sources modeled and the applicable source emission parameters. <i>See NC Form 3 - Appendix A.</i></p>	X
<p>GEP Analysis: Use BPIP-Prime with AERMOD.</p>	X
<p>Cavity Impact Analysis: No separate cavity analysis is required when using AERMOD as long as receptors are placed in cavity susceptible areas. <i>See Section 4.2 and 5.2.</i></p>	X
<p>Terrain: Use digital elevation data from the USGS NED database (http://seamless.usgs.gov/index.php). Use of other sources of terrain elevations or the non-regulatory Flat Terrain option will require prior approval from DAQ AQAB.</p>	X
<p>Coordinate System: Specify the coordinate system used (e.g., NAD27, NAD83, etc.) to identify the source, building, and receptor locations. Note: Be sure to specify in the AERMAP input file the correct base datum (NADA) to be used for identifying source input data locations. Clearly note in both the protocol checklist and the modeling report which datum was used.</p>	NAD83
<p>Receptors: The receptor grid should be of sufficient size and resolution to identify the maximum pollutant impact. <i>See Section 5.3.</i></p>	X
<p>Meteorology: Indicate the AQAB, pre-processed, 5-year data set used in the modeling demonstration: <i>(See Section 5.5 and Appendix B)</i></p> <p>AERMOD <u>Wilmington/Newport '14-'18</u></p> <p>If processing your own raw meteorology, then pre-approval from AQAB is required. Additional documentation files (e.g. AERMET stage processing files) will also be necessary.</p> <p>For NC toxics, the modeling demonstration requires only the last year of the standard 5 year data set (e.g., 2005) provided the maximum impacts are less than 50% of the applicable AAL(s).</p>	
<p>Modeling Results: For each affected pollutant and averaging period, modeling results should be summarized and presented in tabular format indicating compliance status with the applicable AAL, SIL or NAAQS. <i>See NC Form R5 - Appendix A.</i></p>	X
<p>Modeling Files: Submit input and output files for AERMOD. Also include BPIP-Prime files, AERMAP files, DEM files, and any AERMET input and output files, including raw meteorological data.</p>	X

APPENDIX C. LOCAL ZONING CONSISTENCY DETERMINATION

November 3, 2020

Kathryn Thurston
Zoning Administrator – City of Wilmington, NC
305 Chestnut Street
PO Box 1810
Wilmington, NC 28402-1810

*RE: Air Permit Application Zoning Consistency Determination Request
Ecolab, Inc. – Wilmington, NC*

Dear Kathryn Thurston,

Ecolab, Inc. (Ecolab) is writing to inform you that they intend to make permit modifications to their facility at **1 Shipyard Blvd, Wilmington, NC**. Ecolab is modifying their permit in order to show applicability with the newly promulgated AALs for Methyl Bromide. I hereby certify that to the best of my knowledge, the city of Wilmington is the only local government having jurisdiction over any part of the land on which the facility and its appurtenances are located.

In accordance with § 143-215.108(f) of the North Carolina General Statutes, we hereby request that you issue a determination as to whether your municipality has in effect a zoning or subdivision ordinance that is applicable to the facility. Additionally, please issue a determination as to whether the proposed use would be consistent with applicable zoning or subdivision ordinances. For your convenience, I have included a form with which you may remit your determination and a copy of the draft air permit application. As a means of demonstrating proof of transmittal, please sign, title, stamp, and date the enclosed form mail (or email) to both the facility mailing address and the checked air quality office at your earliest convenience.

Thank you for your assistance in this important matter. Should you have any questions please contact James Fealey at 302-322-3600 or Trevor Peters with Trinity Consultants at (919) 462-9693.

Sincerely,

James Fealey
District Manager

Attachments

Zoning Consistency Determination

Facility Name Ecolab – North Carolina State Port Authority

Facility Street Address 1 Shipyard Blvd

Facility City Wilmington

Description of Process Fumigation using Methyl Bromide and Phosphine

SIC/NAICS Code _____

Facility Contact James Fealey

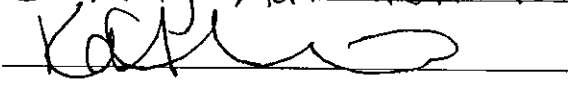
Phone Number 301-322-3600

Mailing Address 53 McCullough Dr

Mailing City, State Zip New Castel, DE 19720

Based on the information given above:

<input type="checkbox"/>	I have received a copy of the air permit application (draft or final) AND...
<input type="checkbox"/>	There are no applicable zoning ordinances for this facility at this time
<input checked="" type="checkbox"/>	The proposed operation IS consistent with applicable zoning ordinances
<input type="checkbox"/>	The proposed operation IS NOT consistent with applicable zoning ordinances (please include a copy of the rules in the package sent to the air quality office)
<input type="checkbox"/>	The determination is pending further information and can not be made at this time
<input type="checkbox"/>	Other:

Agency	<u>City of Wilmington</u>
Name of Designated Official	<u>Kathryn Thurston</u>
Title of Designated Official	<u>Zoning Administrator</u>
Signature	<u></u>
Date	<u>11-17-20</u>

Please forward to the facility mailing address listed above and the air quality office at the appropriate address as checked on the back of this form.

All PSD and Title V Applications

- ☐ Attn: William Willets, PE
DAQ – Permitting Section
1641 Mail Service Center
Raleigh, NC 27699-1641

Local Programs

- ☐ Attn: Air Quality Director
Western NC Regional Air Quality
Agency
52 Coxe Avenue
Asheville, NC 28801
(828) 250-6777
- ☐ Attn: Air Quality Director
Mecklenburg County Air Quality
2145 Suttle Avenue
Charlotte, NC 28208
(704) 336-5430
- ☐ Attn: Air Quality Director
Forsyth County Office of Environmental
Assistance and Protection
201 N. Chestnut Street
Winston-Salem, NC 27101
(336) 703-2440

Division of Air Quality Regional Offices

- ☐ Attn: Regional Supervisor
Asheville Regional Office
2090 U.S. Highway 70
Swannanoa, NC 28778
(828) 296-4500
- ☐ Attn: Regional Supervisor
Washington Regional Office
943 Washington Square Mall
Washington, NC 27889
(252) 946-6481
- ☐ Attn: Regional Supervisor
Fayetteville Regional Office
225 Green Street, Suite 714
Fayetteville, NC 28301
(910) 433-3300
- X Attn: Regional Supervisor
Wilmington Regional Office
127 Cardinal Drive Extension
Wilmington, NC 28405
(910) 796-7215
- ☐ Attn: Regional Supervisor
Mooresville Regional Office
610 East Center Avenue, Suite 301
Mooresville, NC 28115
(704) 663-1699
- ☐ Attn: Regional Supervisor
Winston-Salem Regional Office
450 West Hanes Mill Road, Suite 300
Winston-Salem, NC 27105
(336) 776-9800
- ☐ Attn: Regional Supervisor
Raleigh Regional Office
1628 Mail Service Center
Raleigh, NC 27699-1628
(919) 791-4200