



October 4, 2023

Mr. Steve Allison  
Stationary Source Permitting Program  
Air Protection Branch  
Environmental Protection Division  
4244 International Parkway, Suite 120  
Atlanta, GA 30354

**Re: Weyerhaeuser NR Company – Riceboro Log Yard  
Proposed Fumigation Facility  
Georgia State Implementation Plan (SIP) Permit Application**

Dear Mr. Allison:

Please find enclosed two copies of a SIP Construction and Operating Permit application for the proposed Weyerhaeuser NR Company (Weyerhaeuser) Fumigation Facility located in Riceboro, Georgia. This Application was prepared as discussed in the pre-application meeting held with GEPD on September 1, 2023. Weyerhaeuser is requesting that this Application be processed in accordance with GEPD's Expedited Permitting Program via the request form located in Appendix A. Air quality modeling files are included in the application shipment on USB thumb drive.

Should you have any questions, please contact Mr. Jeff Mehlschau of Weyerhaeuser at [jeff.mehlschau@weyerhaeuser.com](mailto:jeff.mehlschau@weyerhaeuser.com) or Ms. Claire Corta of ALL4 LLC at [ccorta@all4inc.com](mailto:ccorta@all4inc.com) or 919-578-4195.

Sincerely,

**Weyerhaeuser NR Company**

A handwritten signature in blue ink that reads "Jeff Mehlschau".

Jeff Mehlschau  
Export Manager East

Attachment

cc: Meline MacCurdy, Weyerhaeuser  
Nick Harmon, Weyerhaeuser  
Claire Corta, ALL4 LLC

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## 1. INTRODUCTION

Weyerhaeuser NR Company (Weyerhaeuser) is submitting this State Implementation Plan (SIP) Construction and Operating Permit application (Application) to the Georgia Environmental Protection Division (GEPD) pursuant to Georgia Administrative Code (G.A.C.) 391-3-1-.03(1) and 391-3-1-.03(2) for the construction and operation of a new fumigation site (Facility) in Riceboro, Georgia (GA). Weyerhaeuser is requesting a Synthetic Minor Operating Permit (SMOP) from GEPD that contains federally enforceable emissions limitations for hazardous air pollutants (HAP) to ensure that the Facility is classified as a synthetic minor air emissions source.

This Application was prepared as discussed in the pre-application meeting held with GEPD on September 1, 2023. Weyerhaeuser is requesting that this Application be processed in accordance with GEPD's Expedited Permitting Program via the request form located in Appendix A.

A description of the proposed Facility, emissions information, a discussion of potential regulatory requirements, and a Toxic Impact Assessment (TIA) are presented in the following subsections:

- **Section 2 – Facility Description:** Identifies the Facility's physical location and the surrounding area and provides a description of the proposed Facility operations.
- **Section 3 – Emissions Calculations:** Describes the approach to calculating potential emissions for the fumigation operations and requests emissions limitations.
- **Section 4 – Regulatory Applicability Analysis:** Addresses Federal and State of Georgia air quality regulations and their applicability to the Facility.
- **Section 5 – Toxic Impact Assessment:** Describes the ambient air quality modeling performed for the Toxic Impact Assessment and the air quality modeling results.

## **2. FACILITY DESCRIPTION**

This section of the Application provides a description of the Facility's location, regulatory jurisdiction, and operations.

### **2.1 FACILITY LOCATION**

The Facility will be located in Riceboro, Liberty County, GA. An address has not been established at this time, but the Facility will be located on Weyerhaeuser property. A Facility location map is provided in Figure 2-1. The geographical coordinates for the approximate center of the fumigation area at the Facility are:

- Universal Transverse Mercator (UTM) Easting meters (m): 460,800
- UTM Northing m: 3,504,210
- UTM Zone: 17
- North American Datum (NAD): 1983
- Longitude (degrees, minutes, seconds): - 81°24'48.77"
- Latitude (degrees, minutes, seconds): 31°40'21.00"

The area surrounding the proposed Facility is generally flat. The Facility elevation is approximately 12.8 feet above mean sea level.

Liberty County is in attainment for all of the National Ambient Air Quality Standards (NAAQS) per 40 CFR §81.311.

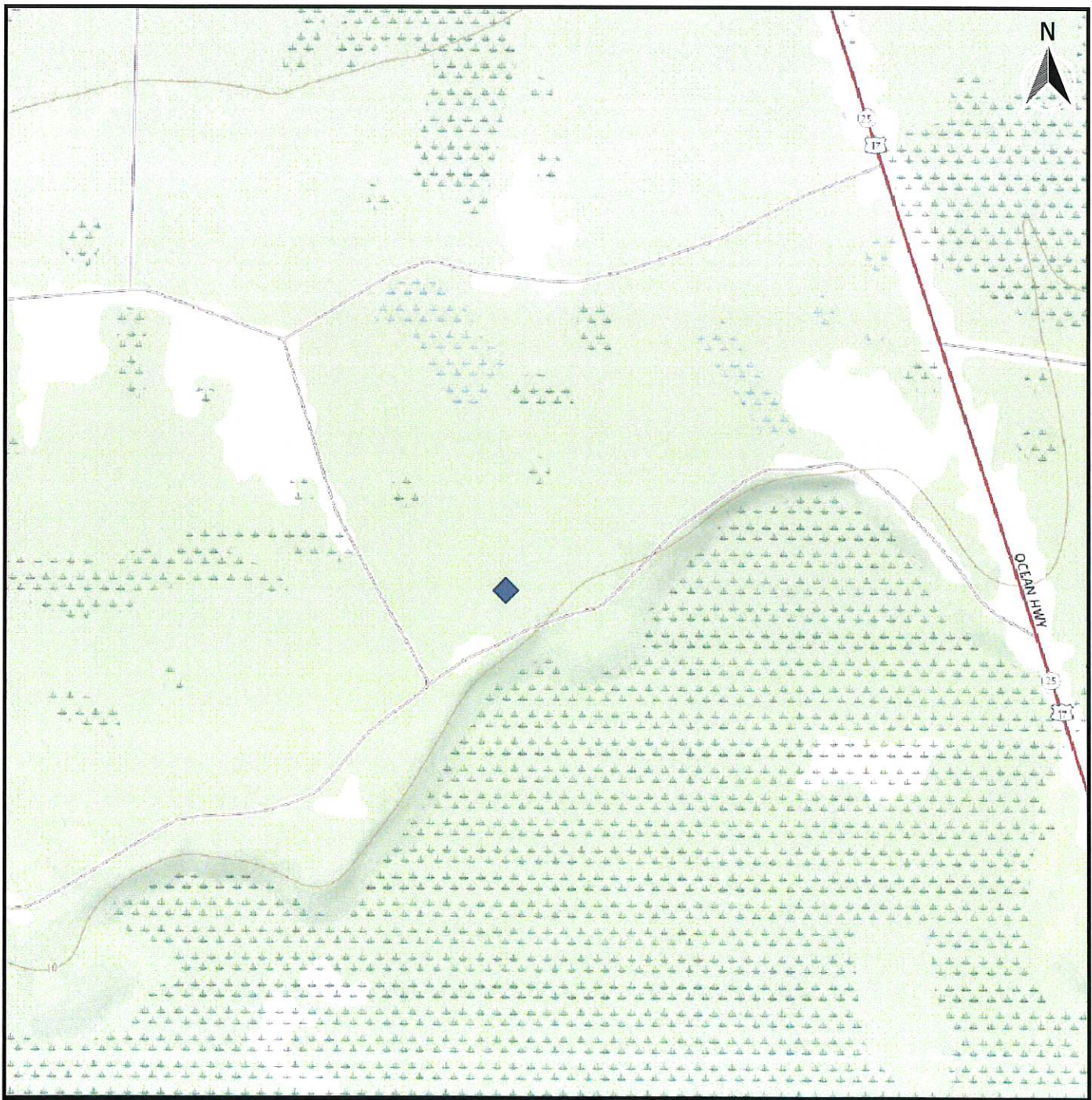
### **2.2 REGULATORY JURISDICTION**

The Facility will be under the jurisdiction of the following State and Federal agencies:

**Georgia Department of Natural Resources**  
Environmental Protection Division  
Air Protection Branch  
4244 International Parkway, Suite 120  
Atlanta, GA 30354

**U.S. Environmental Protection Agency  
(U.S. EPA)**  
Region 4  
Sam Nunn Atlanta Federal Center  
61 Forsyth Street, SW  
Atlanta, GA 30303





**Legend**

◆ Weyerhaeuser - Riceboro Log Yard

Figure 2-1  
Facility Location Map

Weyerhaeuser NR Company  
Liberty County, GA



PREPARED BY:	R.C.	CHECKED BY:	M.B.
DATE CREATED:	September 2023	PROJECT NO.:	00995-0011.00





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**2.3 FACILITY OPERATIONS**

The proposed Facility will include debarking and fumigation treatment of logs for export, using methyl bromide as the fumigant. Logs will be delivered by truck and debarked and/or fumigated based on customer requirements. Fumigation operations are described below.

**2.3.1 Log Fumigation**

During a fumigation event, the logs will be arranged in a stack or in sealed shipping containers on one of four concrete pads (log stack), and the fumigant is injected into the enclosure. Only one log stack will be used for fumigation at a time, while the others are used for staging. The log stack will be covered with a plastic tarp or container that will be sealed to the concrete pad. The cover surrounding the logs will be sealed for 24 hours per fumigation event. At the conclusion of the fumigation event, the aeration process will begin.

**2.3.2 Aeration Process**

Aeration is the process by which fumigant is removed from the log stack at the end of the fumigation period using a forced draft fan. Ductwork will be used to connect the enclosed log stack to a portable vertical stack with no obstructions to vertical air flow. The forced draft fan with exhaust fumigant from the log stack. Only one log stack will be aerated at a time. The fan will operate for at least one hour after fumigation has been completed. A detailed description of exhaust parameters and potential aeration stack locations is included in Section 5.0 of this application. A process flow diagram and detailed site layout are provided in Appendix B.

### **3. EMISSIONS CALCULATIONS**

The following sections present a discussion of the emissions calculations for pollutants subject to regulation from the Facility. Potential emissions from the Facility will consist of particulate matter (PM), PM less than 10 micrometers (PM<sub>10</sub>), PM less than 2.5 micrometers (PM<sub>2.5</sub>), and methyl bromide. Methyl bromide is regulated as a volatile organic compound (VOC), HAP, and toxic air pollutant (TAP). Potential emissions calculations are provided in Appendix C. Although the log debarking operations and haul road emissions are exempt from SIP permitting per G.A.C. 391-3-1-.03(6)(i)(1)(iii) as described in Section 4.2.7, they are included in this application to provide a demonstration that the exemption applies.

#### **3.1 LOG DEBARKING**

Potential emissions from log debarking operations will consist of PM and PM<sub>10</sub>. Emissions of PM less than 2.5 micrometers (PM<sub>2.5</sub>) are expected to be negligible from debarking green wood. Emissions were calculated using the maximum debarking capacity of 300,000 tons of logs per year and emissions factors from U.S. EPA's "FIRE Version 5.0 Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants."

#### **3.2 HAUL ROAD EMISSIONS**

Logs will be transported to and from the fumigation pads via gravel haul roads. Particulate emissions will be generated from the haul roads from the force of the wheels on the road surface. This force causes pulverization of the surface material. The particles are lifted and dropped from the rolling wheels and the road surface is exposed to air currents that generate airborne PM, PM<sub>10</sub>, and PM<sub>2.5</sub>.

Emissions were calculated using the methodology taken from Section 13.2.2 (Unpaved Roads) of U.S. EPA's AP-42. Control efficiencies taken from the *WRAP Fugitive Dust Handbook* (September 7, 2006) were also applied.

### **3.3 FUGIGATION PROCESS EMISSIONS**

The Facility will use a maximum of 220 pounds (lb) of methyl bromide per fumigation event. Emissions of methyl bromide occur when covered log stacks are vented to the atmosphere during aeration following the log fumigation exposure period.

Weyerhaeuser has assumed that the log stacks are sealed and that methyl bromide emissions are not released during the fumigation process. Furthermore, it was assumed that 100% of the amount of fumigant loaded into the log stack will be vented to the atmosphere when the fan is engaged to aerate the log stack. The time required to fully aerate a log stack was assumed to be one hour. Potential emissions from log fumigation operations are summarized in Table 3-1 and a safety data sheet (SDS) for the fumigant is provided in Appendix D.

**Table 3-1  
Log Fumigation Operations Potential Emissions**

Proposed Source ID	Source Name	Maximum Methyl Bromide Emissions Rates	
		(lb/event)	[tons per year (tpy)]
FUM1	Log Fumigation Operations	220	<10

### **3.4 EMISSIONS LIMITATIONS**

Weyerhaeuser is requesting an emissions limitation of less than 10 tpy for methyl bromide (12-month rolling total) in order to be permitted as a synthetic minor source and avoid major source requirements under 40 CFR Parts 52, 63, and 70. Weyerhaeuser is requesting an emissions limitation of 220 lb/hr methyl bromide for compliance with the Georgia Air Toxic Guidelines.

The proposed limitations are consistent with the Toxic Impact Assessment (TIA) air quality modeling demonstration provided in Section 5 of this Application. Weyerhaeuser proposes to demonstrate compliance with the proposed emissions limitations by tracking the quantity of methyl bromide used per fumigation event, including the date and time of the event. Methyl bromide emissions will be calculated monthly for comparison to the proposed 12-month rolling total emissions limitation.

## **4. REGULATORY APPLICABILITY ANALYSIS**

Weyerhaeuser reviewed the Federal air quality regulations and state of Georgia Air Quality Control regulations to identify which regulations potentially apply to the Facility. This section summarizes potentially applicable air quality requirements.

### **4.1 FEDERAL AIR QUALITY REGULATIONS**

For the purposes of this Application, potentially applicable Federal regulations are defined as:

- Standards of Performance for New Stationary Sources
- National Emission Standards for Hazardous Air Pollutants
- New Source Review
- Title V Operating Permit Program

A discussion of each specific Federal regulation is provided in the following subsections.

#### **4.1.1 Standards of Performance for New Stationary Sources**

U.S. EPA has promulgated standards of performance for new, modified, or reconstructed sources of air pollution, referred to as New Source Performance Standards (NSPS), at 40 CFR Part 60. There are no 40 CFR Part 60 regulations that apply or potentially apply to the Facility because the Facility is not a source covered by any of the regulations.

#### **4.1.2 National Emission Standards for Hazardous Air Pollutants**

U.S. EPA has promulgated National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40 CFR Parts 61 and 63. NESHAP promulgated prior to the Clean Air Act Amendments (CAAA) of 1990, found at 40 CFR Part 61, apply to specific compounds emitted from specific processes. There are no 40 CFR Part 61 regulations that apply or potentially apply to the Facility because the Facility neither emits the compounds nor is one of the specific sources regulated.

NESHAP promulgated under 40 CFR Part 63, commonly referred to as Maximum Achievable Control Technology (MACT) standards, apply to specific source categories that are considered area sources or major sources of HAP. A major source of HAP is defined as a source with the facility-wide potential to emit

(PTE) 10 tpy or more for any single HAP, or with a facility-wide PTE of 25 tpy or more for total HAP. Area sources are those sources that do not meet the major source HAP criteria. The Facility will be a synthetic area source of HAP. There are no 40 CFR Part 63 regulations that potentially apply to the Facility because the Facility is not one of the area sources regulated under 40 CFR Part 63.

#### **4.1.3 New Source Review**

The New Source Review (NSR) regulations include both the Prevention of Significant Deterioration (PSD) rules and the non-attainment NSR (NNSR) rules. The PSD rules apply to all regulated NSR pollutants except for those pollutants or precursor pollutants for which the area is not in attainment with the NAAQS for the specific pollutant. The NNSR rules apply to pollutants and precursor pollutants for which the area is not in attainment with the NAAQS for the specific pollutant. The Facility is located in Liberty County, which is classified as in attainment or unclassifiable for all regulated NSR pollutants. Therefore, applicability of PSD must be evaluated for the Facility. Georgia also incorporates the Federal PSD rules by reference at G.A.C. 391-3-1-.02(7).

The Facility does not meet the definition of a major stationary source with respect to the Federal PSD rules. The proposed Facility is not one of the listed source categories and does not have the PTE any regulated NSR pollutant at a rate greater than or equal to 250 tpy. Therefore, the PSD regulations do not apply to the proposed project, and further evaluation of PSD applicability is not required.

#### **4.1.4 Title V Operating Permit Program**

40 CFR Part 70 establishes the Federal Title V Operating Permit (TVOP) program. The TVOP major source thresholds for sources in NAAQS attainment areas are 10 tpy for any single HAP, 25 tpy for total HAP, and 100 tpy for any other pollutant subject to regulation. Potential emissions of each pollutant subject to regulation will remain less than Title V thresholds. Additionally, the Facility is proposing federally enforceable HAP emissions limitations to maintain area source status. Therefore, the TVOP regulations do not apply to the Facility.

## 4.2 STATE OF GEORGIA REGULATIONS

Weyerhaeuser has identified the following G.A.C. regulations that potentially apply to the proposed Facility because of the proposed project.

### 4.2.1 391-3-1-.02(2)(a)(6) – VOC Emission Standards, Exemptions, Area Designations, Compliance Schedules and Compliance Determinations

This rule outlines exemptions and area designations for VOC. Pursuant to G.A.C. 391-3-1-.02(2)(a)(6)(i)(I), the Facility is exempt from the VOC regulations as it is not in a named county and has the potential to emit less than 100 tpy of VOC.

### 4.2.2 391-3-1-.02(2)(e) – Particulate Emission from Manufacturing Processes

This rule provides allowable PM emissions rates from manufacturing processes based on the process input weight rate. For process input weight rates above 30 tons per hour, allowable particulate matter emissions shall not exceed the following:

$$E = 55p^{0.11} - 40$$

Where:

E = emissions rate in pounds per hour; and

p = process input weight rate in tons per hour.

Table 4-1 presents the allowable PM emissions rate and potential PM emissions from the log debarking operations. Potential PM emissions will not exceed the maximum allowable PM emissions rate; therefore the Facility proposes that no monitoring, recordkeeping, or reporting be required.

**Table 4-1  
Maximum Allowable PM Emissions Rate**

<b>Log Debarking Operations Maximum Capacity</b> (ton logs/hr)	<b>Potential PM Emissions Rate<sup>(a)</sup></b> (lb/hr)	<b>Allowable PM Emissions Rate<sup>(b)</sup></b> (lb/hr)
34	0.68	41

(a) Potential hourly PM emissions rate based on 34 ton logs/hr and PM emissions factor of 0.02 lb PM/ton logs as listed in Appendix C.

(b) Allowable PM emissions rate calculated based on  $E=55P^{0.11}-40$  and 34 ton logs/hr.

**4.2.3 391-3-1-.02(2)(b) – Visible Emissions**

This rule applies to any direct source of emissions that is also subject to another emissions limitation under G.A.C. 391-3-1-.02(2). This visible emissions rule will apply to the Facility. Pursuant to G.A.C. 391-3-1-.02(2)(b)(1), the opacity of emissions from the fumigation operations and debarker shall not be greater than or equal to 40%.

**4.2.4 391-3-1-.02(2)(n) – Fugitive Dust**

This rule applies to any operation, process, handling, transportation, or storage facility that has the potential to emit fugitive dust. Pursuant to G.A.C. 391-3-1-.02(2)(n)(1) and (2), reasonable precautions must be taken to prevent emissions of fugitive dust, and the opacity of any fugitive dust shall not equal or exceed 20%. The Facility does not expect significant emissions of fugitive dust from the proposed project; however, should emissions of fugitive dust be identified, the Facility will take reasonable precautions to prevent emissions of fugitive dust from becoming airborne so that opacity from any fugitive dust source is less than or equal to 20%.

**4.2.5 391-3-1-.02(8) – New Source Performance Standards**

GEPD has incorporated by reference the NSPS at 40 CFR Part 60. The applicability of 40 CFR Part 60 standards is discussed in Section 4.1 of this Application.

**4.2.6 391-3-1-.02(9) – Emission Standards for Hazardous Air Pollutants**

GEPD has incorporated by reference the Federal NESHAP at 40 CFR Parts 61 and 63. The applicability of 40 CFR Part 61 and 63 standards is discussed in Section 4.1 of this Application.

**4.2.7 391-3-1-.03(6) – Exemptions**

Per G.A.C. 391-3-1-.03(6), SIP permits are not required for the activities listed in this section. The haul roads and log debarking operations are exempt from SIP permitting because combined emissions of PM and PM<sub>10</sub> are less than 20 tpy as listed in G.A.C. 391-3-1-.03(6)(i)(1)(iii). Potential emissions calculations are provided in Appendix C.



**4.2.8 391-3-1-.03(7) – Combined Permit and Applications**

G.A.C. 391-3-1-.03(1) requires that a permit for the construction or modification of a facility be obtained prior to beginning the construction or modification. G.A.C. 391-3-1-.03(2) requires that an application for an operating permit be made within 30 days after commencement of normal operations. G.A.C. 391-3-1-.03(7) provides that the Director may combine the applications for construction and operating permits into a single application. As such, the purpose of this application is to obtain both a construction and operating permit. The SIP Construction Forms are included in Appendix A.

**4.2.9 G.A.C. 391-3-1-.02(2)(a)(3)(ii) – Toxic Impact Assessment**

G.A.C. 391-3-1-.02(2)(a)(3)(ii) requires emissions limitations or other requirements to safeguard the public health, safety, and welfare of the people of Georgia. The Facility has conducted a TIA for the sources of air toxics emissions proposed for construction/modification, as detailed in Section 5.

## **5. TOXIC IMPACT ASSESSMENT**

The following sections describe the TIA, which has been prepared pursuant to GEPD's *Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions*, revised May 2017 (GEPD Guideline for TIA) and G.A.C. 391-3-1-.02(2)(a)3(ii). The TIA includes air quality modeling results for the TAP emissions from fumigation operations at the Facility. The TIA accounts for all emissions sources at the Facility.

### **5.1 AIR QUALITY MODELING APPROACH AND TECHNICAL INFORMATION**

The following subsections summarize the air quality modeling approach and technical information used to develop this TIA. The subsections specifically include information related to the use of the American Meteorological Society/U.S. EPA regulatory model (AERMOD), such as meteorological data, land use, and receptor locations.

#### **5.1.1 Air Dispersion Model Selection**

The AERMOD model was used to predict ambient air concentrations of methyl bromide from the Facility's proposed fumigation operations. AERMOD is listed in 40 CFR Part 51, Appendix W (Guideline on Air Quality Models) and the GEPD Guideline for TIA as an approved air dispersion model for regulatory modeling applications and for TIA in Georgia. The current regulatory version of AERMOD is 22112.

The AERMOD modeling system consists of two pre-processors and the dispersion model. AERMAP is the terrain pre-processor component, and AERMET is the meteorological pre-processor component. The AERMAP pre-processor characterizes the surrounding terrain and generates stack, building, and receptor elevations. The AERMET pre-processor is used to generate an hourly profile of the atmosphere and uses a pre-processor, AERSURFACE, to process land use data for determining micrometeorological variables that are inputs to AERMET.

AERMOD has various user selectable options that must be considered. U.S. EPA has recommended that certain options be selected when performing air quality analysis studies for regulatory purposes. The following regulatory default options were used in the air quality analysis:

- Stack-Tip Downwash
- Model Accounts for Elevated Terrain Effects

- Calms Processing Routine Used
- No Exponential Decay for Rural Mode
- Missing Data Processing
- ADJ\_U\*

### 5.1.2 Land Use

A land use analysis for the 3-km area surrounding the Facility was completed. The land use analysis is based on the electronic 2019 National Land Cover Database (NLCD2019) for the area. Following 40 CFR Part 51, Appendix W guidance, the land use designation was based on the land use typing scheme developed by Auer (Auer 1978). Using the Auer land use classifications, developed high intensity (NLCD2019 Category 24) and developed medium intensity (NLCD2019 Category 23) are classified as urban type while the remaining NLCD2019 categories are considered to be rural type. If more than 50% of the land use within a 3-km radius of the Facility is rural, then a rural designation should be used in the air dispersion model.

Geographical information system (GIS) software<sup>1</sup> was used to evaluate and summarize the land use types contained in the NLCD2019 electronic land use dataset. Based on the GIS summary, the land use within a 3-km radius of the Facility is rural because approximately 99.5 % of the land use is rural with the remaining 0.5% of land classified as urban. Therefore, the urban option was not selected in AERMOD.

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<sup>1</sup> <https://gis.dhec.sc.gov/landcover/>

### 5.1.3 Receptor Grid

The receptor grid for the air quality analysis covered a square area that is centered on the Facility. All receptors are referenced to the Universal Transverse Mercator (UTM) coordinate system, Zone 17, and the North American Datum of 1983 (NAD83) horizontal datum. Rectangular coordinates were used to identify each receptor location. The rectangular receptor grid has the following off-site grid spacing:

- 100 m from the approximate facility center out to  $\pm 2$  km
- 200 m from  $\pm 2$  km out to  $\pm 5$  km

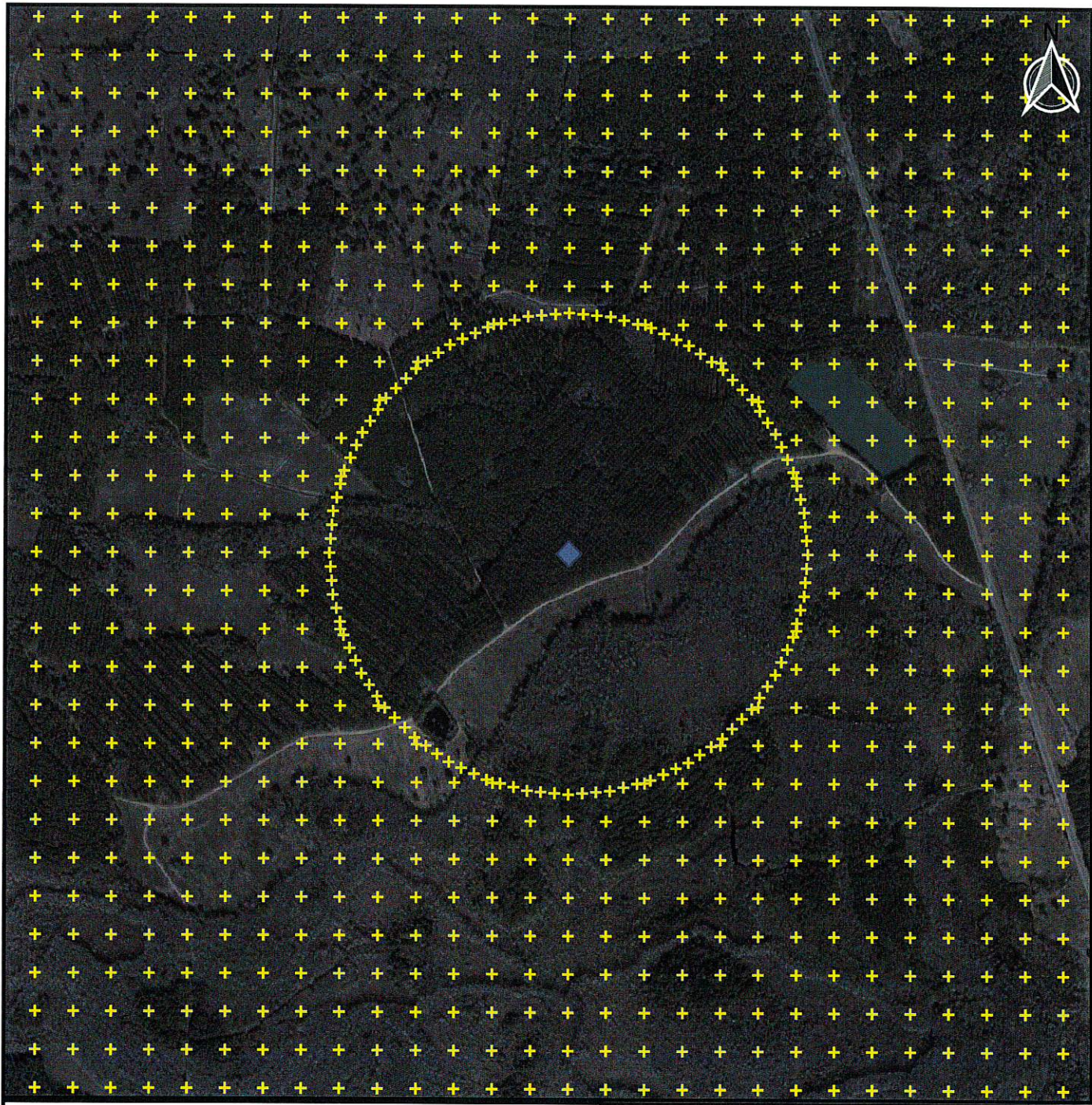
In addition to the rectangular coordinate receptor grid, ambient air boundary receptors were used in the air quality modeling analysis. The ambient air boundary receptors were spaced no more than 50 m along the property boundary. A plot of the inner portion of the receptor grid is shown in Figure 5-1.

Terrain elevations were assigned to all receptors. The AERMAP terrain pre-processor (Version 18081) and U.S. Geological Survey (USGS) 1/3 arcsecond National Elevation Dataset (NED) were used to determine terrain elevations for all receptors.

### 5.1.4 Meteorological Data

The meteorological data for the TIA consisted of five years of surface meteorological data from the Savana International Airport, GA (KSAV), coupled with upper air data from the Charleston International Airport (CHS) in Charleston, SC. The Facility is located in Liberty County, and this AERMET (v.22112) data set is the recommended by GEPD for air quality analyses in this county. The modeling analysis was completed with the most recent meteorological dataset processed by GEPD for the years 2017 – 2021 and incorporated the adjusted surface friction velocity (ADJ\_U\*) option. As requested by GEPD, a comparison of the surface characteristics at KSAV and the site of the Facility is presented in Table 5-1. The albedo and the Bowen ratio of the Facility and the Airport sites are very similar. The surface roughness length at the Airport site is lower than the surface roughness length at the Facility; therefore, using the Airport surface parameters is considered as more conservative.





**Legend**

- ◆ Weyerhaeuser - Riceboro Log Yard
- + Receptor



Figure 5-1  
Receptor Network

Weyerhaeuser NR Company  
Liberty County, GA

PREPARED BY:	<b>R.C.</b>	CHECKED BY:	<b>M.B.</b>
DATE CREATED:	<b>September 2023</b>	PROJECT NO.:	<b>00995-0011.00</b>





**Table 5-1**  
**Comparisons of Surface Characteristics<sup>(a)</sup> between Facility and Airport Domains**

Temporal Frequency	Sector	AIRPORT (KSAV)			FACILITY		
		Albedo	Bowen Ratio <sup>(b)</sup>	Surface Roughness	Albedo	Bowen Ratio <sup>(b)</sup>	Surface Roughness
Winter	0 to 360	0.16	0.57	0.081	0.14	0.37	0.741
Spring	0 to 360	0.15	0.46	0.100	0.14	0.33	0.804
Summer	0 to 360	0.15	0.45	0.116	0.14	0.26	0.810
Fall	0 to 360	0.15	0.57	0.100	0.14	0.37	0.805

<sup>(a)</sup> Surface characteristics were calculated with AERSURFACE v.20060 and 30-meter NLCD 2016.

<sup>(b)</sup> Bowen ratio estimated for average moisture conditions.

### 5.1.5 Source Characterization

The Facility proposes to conduct fumigation activities at four treating pads near the center of the portion of the property. The fumigation will take place under a tarp or enclosed on logs stacked on the log pads with dimensions of 130 feet in length, 40 feet in width, and an estimated height of 14 feet. Only one fumigation pad will be active at any time. During aeration, fumigant emissions will be vented through a single 50-foot stack equipped with a blower. The stack will be vertical and uncapped and will have a stack diameter of either 12 or 24 inches; aeration will occur at ambient temperature. The blowers will generate an air flow in the range of 5,500 to 9,300 cubic feet per minute (cfm). The Facility is requesting approval of multiple portable stack characterizations for operational flexibility should the stack need to be replaced or substituted.

To characterize emissions from the fumigation process, the AERMOD POINT source type was selected to represent aeration emissions (Table 5-2). Seven possible locations of the fumigation stack are proposed.

A single AERMOD run was executed to evaluate the maximum impacts for each configuration, and individual source groups (SRCGROUPs) were set to separate the fumigation events.

**Table 5-2**  
**Stack Characterization**

Source ID	UTM17e (m)	UTM17n (m)	Elev. (m)	Stack Height (ft)	Stack Temp. (F)	Stack Vel. (ft/s)	Stack Diam. (ft)	Flow Rate (cfm)
AB_CNT	460,786	3,504,241	3.90	50	ambient	29, 41, 49, 117, 165, 197	1 or 2	5,500, 7,790, 9,300
BC_CNT	460,801	3,504,212	3.89	50	ambient	29, 41, 49, 117, 165, 197	1 or 2	5,500, 7,790, 9,300
CD_CNT	460,817	3,504,184	3.91	50	ambient	29, 41, 49, 117, 165, 197	1 or 2	5,500, 7,790, 9,300
AB_WST	460,766	3,504,230	3.93	50	ambient	29, 41, 49, 117, 165, 197	1 or 2	5,500, 7,790, 9,300
BC_WST	460,782	3,504,202	3.93	50	ambient	29, 41, 49, 117, 165, 197	1 or 2	5,500, 7,790, 9,300
CD_WST	460,797	3,504,173	3.93	50	ambient	29, 41, 49, 117, 165, 197	1 or 2	5,500, 7,790, 9,300
AB_EST	460,805	3,504,251	3.77	50	ambient	29, 41, 49, 117, 165, 197	1 or 2	5,500, 7,790, 9,300
BC_EST	460,821	3,504,223	3.73	50	ambient	29, 41, 49, 117, 165, 197	1 or 2	5,500, 7,790, 9,300
CD_EST	460,837	3,504,195	3.71	50	ambient	29, 41, 49, 117, 165, 197	1 or 2	5,500, 7,790, 9,300
NA_CNT	460,771	3,504,267	3.93	50	ambient	29, 41, 49, 117, 165, 197	1 or 2	5,500, 7,790, 9,300
SD_CNT	460,832	3,504,157	3.92	50	ambient	29, 41, 49, 117, 165, 197	1 or 2	5,500, 7,790, 9,300

### 5.1.6 Building Downwash Analysis

There are no solid structures in the proximity of any of the stack locations; therefore, building downwash was not included in the analysis. Refer to Figure 5-2 for the Facility layout.





**Legend**

- Aeration Stack
- Fumigation Pad



Figure 5-2  
Facility Layout

Weyerhaeuser NR Company  
Liberty County, GA

PREPARED BY:	R.C.	CHECKED BY:	M.B.
DATE CREATED:	September 2023	PROJECT NO.:	00995-0011.00



**5.2 AIR QUALITY MODELING RESULTS**

The results of the AERMOD air quality modeling evaluation are summarized in Table 5-3. The table includes the 15-minute and annual Maximum Ground-Level Concentrations (MGLCs) predicted by AERMOD for methyl bromide. As indicated in Table 5-3, the predicted concentrations from the Facility are less than the Acceptable Ambient Concentrations (AACs) provided in Appendix A of the GEPD Guideline for TIA. The applicable AERMOD input and output files are attached electronically to the Application.

**Table 5-3  
Methyl Bromide Air Quality Modeling Results**

Location	Scenario	Short-term Emissions Rate (lb/hr)	Maximum 15-Minute Concentrations ( $\mu\text{g}/\text{m}^3$ ) <sup>(a)</sup>	15-Minute AAC ( $\mu\text{g}/\text{m}^3$ )	Annual Emissions Rate (lb/hr) <sup>(b)</sup>	Annual Concentrations ( $\mu\text{g}/\text{m}^3$ ) <sup>(b)</sup>	Annual AAC ( $\mu\text{g}/\text{m}^3$ )
AB_CNT	5,500 cfm, 12" diam.	220	7,355	8,000	2.26	0.98	5
BC_CNT			7,552			0.95	
CD_CNT			7,501			0.94	
AB_WST			7,628			0.95	
BC_WST			7,766			0.92	
CD_WST			7,626			0.92	
AB_EST			7,379			1.01	
BC_EST			7,396			0.98	
CD_EST			7,397			0.96	
NA_CNT			7,350			1.00	
SD_CNT			7,521			0.95	
AB_CNT	7,790 cfm, 12" diam.	220	7,257	8,000	2.26	0.97	5
BC_CNT			7,448			0.94	
CD_CNT			7,394			0.93	
AB_WST			7,521			0.94	
BC_WST			7,655			0.92	
CD_WST			7,519			0.91	
AB_EST			7,278			1.00	
BC_EST			7,293			0.97	
CD_EST			7,294			0.96	
NA_CNT			7,251			0.99	
SD_CNT			7,412			0.95	
AB_CNT	9,300 cfm, 12" diam.	220	7,189	8,000	2.26	0.97	5
BC_CNT			7,376			0.94	
CD_CNT			7,320			0.93	
AB_WST			7,447			0.94	
BC_WST			7,578			0.91	
CD_WST			7,448			0.91	
AB_EST			7,208			1.00	
BC_EST			7,223			0.97	
CD_EST			7,223			0.96	
NA_CNT			7,182			0.99	
SD_CNT			7,337			0.94	

Location	Scenario	Short-term Emissions Rate (lb/hr)	Maximum 15-Minute Concentrations ( $\mu\text{g}/\text{m}^3$ ) <sup>(a)</sup>	15-Minute AAC ( $\mu\text{g}/\text{m}^3$ )	Annual Emissions Rate (lb/hr) <sup>(b)</sup>	Annual Concentrations ( $\mu\text{g}/\text{m}^3$ ) <sup>(b)</sup>	Annual AAC ( $\mu\text{g}/\text{m}^3$ )
AB_CNT	5,500 cfm, 24" diam.	220	7,459	8,000	2.26	0.98	5
BC_CNT			7,663			0.95	
CD_CNT			7,615			0.94	
AB_WST			7,741			0.95	
BC_WST			7,883			0.92	
CD_WST			7,743			0.92	
AB_EST			7,486			1.01	
BC_EST			7,504			0.98	
CD_EST			7,505			0.97	
NA_CNT			7,455			1.00	
SD_CNT			7,637			0.96	
AB_CNT			7,790 cfm, 24" diam.			220	
BC_CNT	7,618	0.95					
CD_CNT	7,569	0.94					
AB_WST	7,696	0.95					
BC_WST	7,836	0.92					
CD_WST	7,696	0.92					
AB_EST	7,443	1.01					
BC_EST	7,460	0.98					
CD_EST	7,461	0.97					
NA_CNT	7,413	1.00					
SD_CNT	7,590	0.95					
AB_CNT	9,300 cfm, 24" diam.	220		7,388	8,000		2.26
BC_CNT			7,587	0.95			
CD_CNT			7,537	0.94			
AB_WST			7,664	0.95			
BC_WST			7,803	0.92			
CD_WST			7,663	0.92			
AB_EST			7,412	1.01			
BC_EST			7,429	0.98			
CD_EST			7,430	0.97			
NA_CNT			7,383	1.00			
SD_CNT			7,558	0.95			

<sup>(a)</sup> This result is based on the maximum 1-hour predicted concentration scaled by factor 1.32.

<sup>(b)</sup> Annual modeling is based on 9.9 tpy and annualized over a total 8,760 hours per year assuming continuous operations.

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**APPENDIX A -  
CONSTRUCTION (SIP) FORMS**

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**EXPEDITED PERMITTING PROGRAM – APPLICATION FOR ENTRY TO PROGRAM FOR AIR PERMITS**

<b>EPD Use Only</b>	
Date Received: <u>10/12/2023</u>	Application No. <u>29057</u>

To be eligible for expedited review, this application form must be accompanied by the complete permit application for the type of air permit being requested.

**1. Contact Information**

Facility Name: Weyerhaeuser - Riceboro Log Yard  
AIRS No. (if known): 04-13- 179-00040  
Contact Person: Jeff Mehlschau Title: Export Manager East  
Telephone No.: 503-931-3089 Alternate Phone No.: \_\_\_\_\_  
Email Address: jeff.mehlschau@weyerhaeuser.com

If EPD is unable to contact me, please contact the alternate contact person:

Contact Person: Nick Harmon Title: Regional Environmental Manager  
Telephone No.: 662-242-2916 Alternate Phone No.: \_\_\_\_\_  
Email Address: nick.harmon@weyerhaeuser.com

On Page 2 of this form, please check the appropriate box for which type of air permit you are requesting expedited review.

I have read the Expedited Review Program Standard Operating Procedures and accept all of the terms and conditions within. I have participated in the required pre-application meeting with EPD. I understand that it is my responsibility to ensure an application of the highest quality is submitted and to address any requests for additional information by the deadline specified. I understand that submittal of this request form is not a guarantee that expedited review will be granted.

Signature:  Date: 10-5-23

2. Applying For Which Type Of Permit: (Please Check Appropriate Box)

<b>Expedited Review Fees for Air Permits</b>	
<b>Permit Type – Please Check One</b>	<b>Expedited Review Fee* (fee as of March 1, 2021)</b>
<input type="checkbox"/> Generic Permit: Concrete Batch Plant – Minor Source	\$1,000 (\$1,250)
<input type="checkbox"/> Generic Permit: Concrete Batch Plant – Synthetic Minor Source	\$1,500 (\$1,875)
<input type="checkbox"/> Generic Permit: Hot Mix Asphalt Plant – Synthetic Minor Source	\$2,000 (\$2,500)
<input type="checkbox"/> Minor Source Permit (or Amendment)	\$3,000 (\$3,750)
<input checked="" type="checkbox"/> Synthetic Minor Permit (or Amendment)	\$4,000 (\$5,000)
<input type="checkbox"/> Major Source SIP Permit not subject to PSD or 112(g)	\$6,000 (\$7,500)
<input type="checkbox"/> Title V 502(b)(10) Permit Amendment	\$4,000 (\$5,000)
<input type="checkbox"/> Title V Minor Modification with Construction	\$4,000 (\$5,000)
<input type="checkbox"/> Title V Significant Modification	\$6,000 (\$7,500)
<input type="checkbox"/> Major Source SIP Permit subject to 112(g) but not subject to PSD	\$15,000 (\$18,750)
<input type="checkbox"/> PSD Permit (or Amendment) not subject to NAAQS and/or PSD Increment Modeling	\$15,000 (\$18,750)
<input type="checkbox"/> PSD Permit (or Amendment) subject to NAAQS and/or PSD Increment Modeling but not subject to Modeling for PM <sub>2.5</sub> , NO <sub>2</sub> , or SO <sub>2</sub>	\$20,000 (\$25,000)
<input type="checkbox"/> PSD Permit (or Amendment) subject to NAAQS and/or PSD Increment Modeling for PM <sub>2.5</sub> , NO <sub>2</sub> , or SO <sub>2</sub>	\$25,000 (\$31,250)
<input type="checkbox"/> PSD Permit (or Amendment) subject to NAAQS and/or PSD Increment Modeling for PM <sub>2.5</sub> , NO <sub>2</sub> , or SO <sub>2</sub> and also impacting a Class I Area	\$30,000 (\$37,500)
<input type="checkbox"/> Nonattainment NSR Review Permit (or Amendment)	\$40,000 (\$50,000)
* Do not send fee payment with this form. Upon acceptance of application for the expedited permit program, EPD will notify you and an invoice will appear on GECCO. Fees must be paid via check to "Georgia Department of Natural Resources" within ten (10) business days of acceptance.	

3. Comments.

This section is optional. Applicants may use this field to include specific comments or requests for EPD consideration. For example, the applicant may use this field to request a public hearing or to remind EPD of review time needs and/or expectations that may differ from the time frames in the procedures.





## SIP AIR PERMIT APPLICATION

Date Received:	<u>10-12-2023</u>	EPD Use Only	Application No.	<u>29057</u>
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### FORM 1.00: GENERAL INFORMATION

#### 1. Facility Information

Facility Name: Weyerhaeuser – Riceboro Log Yard  
AIRS No. (if known): 04-13-179-00040  
Facility Location: Street: TBD  
City: Riceboro Georgia Zip: 31323 County: Liberty  
Is this facility a "small business" as defined in the instructions? Yes:  No:

#### 2. Facility Coordinates

Latitude: 31° 40' 21.00" **NORTH** Longitude: 81° 24' 48.77" **WEST**  
UTM Coordinates: 460,800 **EAST** 3,504,210 **NORTH** **ZONE** 17

#### 3. Facility Owner

Name of Owner: Weyerhaeuser NR Company  
Owner Address Street: 810 Whittington Avenue  
City: Hot Springs State: AR Zip: 71901

#### 4. Permitting Contact and Mailing Address

Contact Person: Jeff Mehlschau Title: Export Manager East  
Telephone No.: 503-931-3089 Ext. \_\_\_\_\_ Fax No.: \_\_\_\_\_  
Email Address: jeff.mehlschau@weyerhaeuser.com  
Mailing Address: Same as: Facility Location:  Owner Address:  Other:   
If Other: Street Address: 206 Brighton Park Blvd  
City: Summerville State: SC Zip: 29486

#### 5. Authorized Official

Name: Jeff Mehlschau Title: Export Manager East  
Address of Official Street: 206 Brighton Park Blvd  
City: Summerville State: SC Zip: 29486

This application is submitted in accordance with the provisions of the Georgia Rules for Air Quality Control and, to the best of my knowledge, is complete and correct.

Signature:  Date: 10-5-23



11. If confidential information is being submitted in this application, were the guidelines followed in the "Procedures for Requesting that Submitted Information be treated as Confidential"?

No       Yes

**12. New Facility Emissions Summary**

Criteria Pollutant	New Facility	
	Potential (tpy)	Actual (tpy)
Carbon monoxide (CO)	0	0
Nitrogen oxides (NOx)	0	0
Particulate Matter (PM) (filterable only)	4.67	<4.67
PM <10 microns (PM10)	2.13	<2.13
PM <2.5 microns (PM2.5)	0.05	<0.05
Sulfur dioxide (SO <sub>2</sub> )	0	0
Volatile Organic Compounds (VOC)	<10	<10
Greenhouse Gases (GHGs) (in CO <sub>2</sub> e)	0	0
Total Hazardous Air Pollutants (HAPs)	<10	<10
Individual HAPs Listed Below:		
Methyl Bromide	<10	<10

**13. Existing Facility Emissions Summary**

Criteria Pollutant	Current Facility		After Modification	
	Potential (tpy)	Actual (tpy)	Potential (tpy)	Actual (tpy)
Carbon monoxide (CO)	N/A	N/A	N/A	N/A
Nitrogen oxides (NOx)				
Particulate Matter (PM) (filterable only)				
PM <10 microns (PM10)				
PM <2.5 microns (PM2.5)				
Sulfur dioxide (SO <sub>2</sub> )				
Volatile Organic Compounds (VOC)				
Greenhouse Gases (GHGs) (in CO <sub>2</sub> e)				
Total Hazardous Air Pollutants (HAPs)				
Individual HAPs Listed Below:				


**14. 4-Digit Facility Identification Code:**

SIC Code: 2411 SIC Description: Logging  
 NAICS Code: 113310 NAICS Description: Logging

**15. Description of general production process and operation for which a permit is being requested. If necessary, attach additional sheets to give an adequate description. Include layout drawings, as necessary, to describe each process. References should be made to source codes used in the application.**

Debarking and/or Fumigation of bulk logs with methyl bromide prior to export.

**16. Additional information provided in attachments as listed below:**

- Attachment A - Construction (SIP) Forms
- Attachment B - Process Flow Diagram and Site Layout
- Attachment C - Emissions Calculations
- Attachment D - Safety Data Sheet
- Attachment E - \_\_\_\_\_
- Attachment F - \_\_\_\_\_

**17. Additional Information: Unless previously submitted, include the following two items:**

- Plot plan/map of facility location or date of previous submittal: \_\_\_\_\_
- Flow Diagram or date of previous submittal: \_\_\_\_\_

**18. Other Environmental Permitting Needs:**

Will this facility/modification trigger the need for environmental permits/approvals (other than air) such as Hazardous Waste Generation, Solid Waste Handling, Water withdrawal, water discharge, SWPPP, mining, landfill, etc.?

No  Yes, please list below:

Industrial Stormwater Discharge Permit/SWPPP

**19. List requested permit limits including synthetic minor (SM) limits.**

Methyl Bromide – <10 tpy (HAP)

**20. Effective March 1, 2019, permit application fees will be assessed. The fee amount varies based on type of permit application. Application acknowledgement emails will be sent to the current registered fee contact in the GECO system. If fee contacts have changed, please list that below:**

**Fee Contact name: Jeff Mehlschau**

**Fee Contact email address: jeff.mehlschau@weyerhaeuser.com**

**Fee Contact phone number: 503-931-3089**

**Fee invoices will be created through the GECO system shortly after the application is received. It is the applicant's responsibility to access the facility GECO account, generate the fee invoice, and submit payment within 10 days after notification.**



Facility Name: Weyerhaeuser – Riceboro Log Yard Date of Application: October 2023

**FORM 2.06 – MANUFACTURING AND OPERATIONAL DATA**

Normal Operating Schedule: 24 hours/day 7 days/week 52 weeks/yr  
 Additional Data Attached?  - No  - Yes, please include the attachment in list on Form 1.00, Item 16.

Seasonal and/or Peak Operating Periods: Frequency of fumigation is variable and dependent upon market demand.

Dates of Annually Occurring Shutdowns: Not applicable

**PRODUCTION INPUT FACTORS**

Emission Unit ID	Emission Unit Name	Const. Date	Input Raw Material(s)	Annual Input	Hourly Process Input Rate		
					Design	Normal	Maximum
FUM1	Log Fumigation Operations	N/A	Methyl Bromide	<10 tpy	N/A	N/A	220 lbs/hr

**PRODUCTS OF MANUFACTURING**

Emission Unit ID	Description of Product	Production Schedule		Hourly Production Rate (Give units: e.g. lb/hr, ton/hr)			
		Tons/yr	Hr/yr	Design	Normal	Maximum	Units
FUM1	Fumigated logs for export.	Variable		Variable			





**FORM 6.00 – FUGITIVE EMISSION SOURCES**

Fugitive Emission Source ID	Description of Source <sup>1</sup>	Emission Reduction Precautions	Pot. Fugitive Emissions	
			Amount (tpy)	Pollutant
DB-1	Log Debarker	N/A	3.00	PM
			1.65	PM <sub>10</sub>
HR-1	Haul Roads	On-site vehicle speeds limited to 15 mph; gravel applied on dirt surfaces; watering implemented as needed	1.67	PM
			0.48	PM <sub>10</sub>
			0.0478	PM <sub>2.5</sub>

<sup>1</sup> The Log Debarker and Haul Roads meet SIP permit exemption thresholds but are conservatively included for completeness.

Facility Name: Weyerhaeuser – Riceboro Log Yard

Date of Application: October 2023

**FORM 7.00 – AIR MODELING INFORMATION: Stack Data**

Stack ID	Emission Unit ID(s)	Stack Information			Dimensions of largest Structure Near Stack		Exit Gas Conditions at Maximum Emission Rate			
		Height Above Grade (ft)	Inside Diameter (ft)	Exhaust Direction	Height (ft)	Longest Side (ft)	Velocity (ft/sec)	Temperature (°F)	Average	Maximum
AB_CNT	FUM1	50	1 or 2	vertical	N/A	N/A	29, 41, 49, 117, 165, 197	ambient	7,790	9,300
BC_CNT	FUM1	50	1 or 2	vertical	N/A	N/A	29, 41, 49, 117, 165, 197	ambient	7,790	9,300
CD_CNT	FUM1	50	1 or 2	vertical	N/A	N/A	29, 41, 49, 117, 165, 197	ambient	7,790	9,300
AB_WST	FUM1	50	1 or 2	vertical	N/A	N/A	29, 41, 49, 117, 165, 197	ambient	7,790	9,300
BC_WST	FUM1	50	1 or 2	vertical	N/A	N/A	29, 41, 49, 117, 165, 197	ambient	7,790	9,300
CD_WST	FUM1	50	1 or 2	vertical	N/A	N/A	29, 41, 49, 117, 165, 197	ambient	7,790	9,300
AB_EST	FUM1	50	1 or 2	vertical	N/A	N/A	29, 41, 49, 117, 165, 197	ambient	7,790	9,300
BC_EST	FUM1	50	1 or 2	vertical	N/A	N/A	29, 41, 49, 117, 165, 197	ambient	7,790	9,300
CD_EST	FUM1	50	1 or 2	vertical	N/A	N/A	29, 41, 49, 117, 165, 197	ambient	7,790	9,300
NA_CNT	FUM1	50	1 or 2	vertical	N/A	N/A	29, 41, 49, 117, 165, 197	ambient	7,790	9,300
SD_CNT	FUM1	50	1 or 2	vertical	N/A	N/A	29, 41, 49, 117, 165, 197	ambient	7,790	9,300

**NOTE:** If emissions are not vented through a stack, describe point of discharge below and, if necessary, include an attachment. List the attachment in Form 1.00 *General Information*, item 16.

N/A

Facility Name: Weyerhaeuser – Riceboro Log Yard

Date of Application: October 2023

**FORM 7.00 AIR MODELING INFORMATION: Chemicals Data**

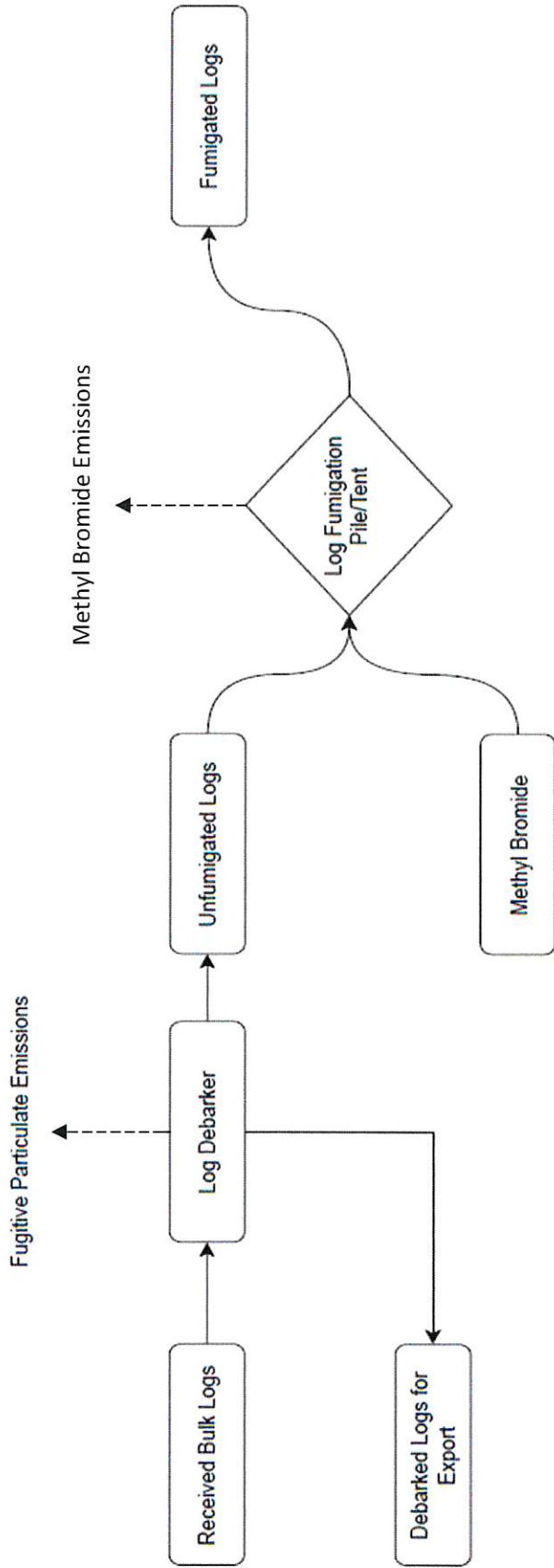
<b>Chemical</b>	<b>Potential Emission Rate (lb/hr)</b>	<b>Toxicity</b>	<b>Reference</b>	<b>MSDS<sup>1</sup> Attached</b>
Methyl Bromide	220	See MeBr SDS in Appendix D.	See MeBr SDS in Appendix D.	<input checked="" type="checkbox"/>

<sup>1</sup> The SDS provided is a representative for the fumigant.

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**APPENDIX B -  
PROCESS FLOW DIAGRAM AND SITE LAYOUT**

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**Legend**

-----> Emissions

-----> Process Flow

Figure B-1  
Process Flow Diagram

Weyerhaeuser NR Company  
Riceboro Log Yard  
Riceboro, GA



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**APPENDIX C -  
EMISSIONS CALCULATIONS**

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**Table C-1**  
**Fumigation Facility Total Potential Emissions**  
**Weyerhaeuser NR Company - Riceboro, GA**

Pollutant <sup>(a)</sup>	Potential Emissions
	(tpy)
PM <sup>(b)</sup>	4.67
PM <sub>10</sub> <sup>(b)</sup>	2.13
PM <sub>2.5</sub> <sup>(b)</sup>	4.78E-02
MeBr	<10
VOC	<10
Total HAP	<10

<sup>(a)</sup> Sources of PM emissions meet SIP permit exemption thresholds but are conservatively included for completeness.

<sup>(b)</sup> All particulate emissions include only the filterable portion.

**Table C-2**  
**Fumigation Facility Haul Roads PTE**  
**Weyerhaeuser NR Company - Riceboro, GA**

Logs are transported to and from the fumigation pads via haul roads. Particulate emissions are generated from the haul roads from the force of the wheels on the road surface. This force causes pulverization of the surface material. The particles are lifted and dropped from the rolling wheels and the road surface is exposed to air currents that generate airborne particulate emissions.

The methodology presented below is taken from Section 13.2.2 (Unpaved Roads) of the U.S. EPA's AP-42 document and is based on the vehicle miles traveled (VMT) at the site.

$$E = k \left( \frac{s}{12} \right)^a \left( \frac{W}{3} \right)^b$$

Where: E is the size-specific emission factor (lb/VMT)  
s is the surface material silt content (%)  
W is the mean vehicle weight (tons)  
k, a, and b are empirical constants

Equation 1a of AP-42 Section 13.2.2 for vehicles traveling on unpaved surfaces at industrial sites

Constant	Industrial Roads		
	PM <sub>2.5</sub>	PM <sub>10</sub>	PM
k	0.15	1.5	4.9
a	0.9	0.9	0.7
b	0.45	0.45	0.45

8.4	% Average Silt Content of Plant Roads at Lumber Sawmills (Table 13.2.2-1)
45	tons, Mean Vehicle Loaded Weight (Fleet Average)

0.37	lb/VMT, Calculated PM <sub>2.5</sub> Emission Factor (Road Silt Portion)
3.68	lb/VMT, Calculated PM <sub>10</sub> Emission Factor (Road Silt Portion)
12.91	lb/VMT, Calculated PM Emission Factor (Road Silt Portion)

Emissions associated with the exhaust, brake wear, and tire wear must be added to the values calculated above. The values shown below were taken from Table 13.2.2-4.

Particle Size	PM <sub>2.5</sub>	PM <sub>10</sub>	PM
lb/VMT "adder"	3.60E-04	4.70E-04	4.70E-04

0.37	lb/VMT, Calculated PM <sub>2.5</sub> Emission Factor (Total, No natural mitigation)
3.68	lb/VMT, Calculated PM <sub>10</sub> Emission Factor (Total, No natural mitigation)
12.91	lb/VMT, Calculated PM Emission Factor (Total, No natural mitigation)

All roads are subject to natural mitigation because of rainfall and other precipitation. The following equation accounts for reductions in the emission factor due to natural mitigation.

$$E_{EXT} = E \left[ \frac{365 - P}{365} \right]$$

Where: E<sub>EXT</sub> is the adjusted emission factor accounting for natural mitigation  
E is emission factor from Equation 1a  
P is the number of days per year with at least 0.01 inches of precipitation

120	days, Precipitation Greater than 0.01 inches at Plant Location (Figure 13.2.2-1)
-----	--

0.25	lb/VMT, Calculated PM <sub>2.5</sub> Emission Factor (Total, With natural mitigation)
2.47	lb/VMT, Calculated PM <sub>10</sub> Emission Factor (Total, With natural mitigation)
8.67	lb/VMT, Calculated PM Emission Factor (Total, With natural mitigation)

In addition to natural mitigation, the following mitigation will be implemented at the site. Control efficiencies taken from the *WRAP Fugitive Dust Handbook, September 7, 2006*.

44%	Limit on-site vehicle speeds (on unpaved roads) to <25 mph (15 mph within the facility)
84%	Application of Gravel on Dirt Surfaces
74%	Implement watering as needed for industrial unpaved road.

2.02E-01	lb/VMT, Calculated PM Emission Factor (Total, With natural mitigation, and water sprays)
5.76E-02	lb/VMT, Calculated PM <sub>10</sub> Emission Factor (Total, With natural mitigation, and water sprays)
5.76E-03	lb/VMT, Calculated PM <sub>2.5</sub> Emission Factor (Total, With natural mitigation, and water sprays)

The one-way vehicle distance was calculated by summing the total distance from Hwy 17 to the boundary of the project area (0.6 miles) and the total distance to the unloading area from the boundary of the project area (0.19 miles). This value is doubled and used as a two-way vehicle distance in the emissions calculations below.

1.58	miles, Two-way Vehicle Distance to and from Fumigation Pads
10,500	Trips Taken by Trucks per Year
2,000	lb/ton, Conversion Factor

1.67	tpy, PM Emissions
0.48	tpy, PM <sub>10</sub> Emissions
4.78E-02	tpy, PM <sub>2.5</sub> Emissions

**Table C-3**  
**Debarcker Emissions**  
**Weyerhaeuser NR Company - Riceboro, GA**

Debarcker Throughput (ton logs/yr)	Emissions Factors <sup>(a)</sup> (lb/ton logs)		Potential Emissions (tpy)	
	PM	PM <sub>2.5</sub>	PM	PM <sub>2.5</sub>
300,000	0.02	0.011	3.00	1.65

<sup>(a)</sup> Emissions factors taken from "FIRE Version 5.0 Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants" section 3-07 (Pulp and Paper and Wood Products).

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**APPENDIX D -  
SAFETY DATA SHEETS**

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# SAFETY DATA SHEET

**Airgas**  
an Air Liquide company

Methyl Bromide

## Section 1. Identification

**GHS product identifier** : Methyl Bromide  
**Chemical name** : Methyl Bromide  
**Other means of identification** : Methane, bromo-; Bromomethane; Curafume; Embafume; Halon 1001; Haltox; Iscobrome; Monobromomethane; Terabol; CH3Br; Bercema  
**Product use** : Synthetic/Analytical chemistry.  
**Synonym** : Methane, bromo-; Bromomethane; Curafume; Embafume; Halon 1001; Haltox; Iscobrome; Monobromomethane; Terabol; CH3Br; Bercema  
**SDS #** : 001035  
**Supplier's details** : Airgas USA, LLC and its affiliates  
259 North Radnor-Chester Road  
Suite 100  
Radnor, PA 19087-5283  
1-610-687-5253  
  
**24-hour telephone** : 1-866-734-3438

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).  
**Classification of the substance or mixture** : FLAMMABLE GASES - Category 1  
GASES UNDER PRESSURE - Compressed gas  
ACUTE TOXICITY (inhalation) - Category 2  
SKIN IRRITATION - Category 2  
EYE IRRITATION - Category 2A  
GERM CELL MUTAGENICITY - Category 2  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS), kidneys) - Category 2  
AQUATIC HAZARD (ACUTE) - Category 1  
AQUATIC HAZARD (LONG-TERM) - Category 1  
HAZARDOUS TO THE OZONE LAYER - Category 1

### GHS label elements

**Hazard pictograms** :



**Signal word** :

Danger

**Hazard statements** :

Extremely flammable gas.  
May form explosive mixtures with air.  
Contains gas under pressure; may explode if heated.  
Fatal if inhaled.  
Causes serious eye irritation.  
Causes skin irritation.  
May cause respiratory irritation.  
Suspected of causing genetic defects.  
May cause damage to organs through prolonged or repeated exposure. (central nervous system (CNS), kidneys)  
Very toxic to aquatic life with long lasting effects.  
Harms public health and the environment by destroying ozone in the upper atmosphere.

### Precautionary statements

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## Section 2. Hazards identification

- General** : Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Approach suspected leak area with caution.
- Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Wear respiratory protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe gas. Wash hands thoroughly after handling.
- Response** : Collect spillage. Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.
- Storage** : Store locked up. Protect from sunlight. Store in a well-ventilated place.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations. Refer to manufacturer or supplier for information on recovery or recycling.
- Hazards not otherwise classified** : In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Substance
- Chemical name** : Methyl Bromide
- Other means of identification** : Methane, bromo-; Bromomethane; Curafume; Embafume; Halon 1001; Haltox; Iscobrome; Monobromomethane; Terabol; CH3Br; Bercema

### CAS number/other identifiers

- CAS number** : 74-83-9
- Product code** : 001035

Ingredient name	%	CAS number
bromomethane	100	74-83-9

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.



## Section 4. First aid measures

- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : As this product is a gas, refer to the inhalation section.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation. Contact with rapidly expanding gas may cause burns or frostbite.
- Inhalation** : Fatal if inhaled. May cause respiratory irritation.
- Skin contact** : Causes skin irritation. Contact with rapidly expanding gas may cause burns or frostbite.
- Frostbite** : Try to warm up the frozen tissues and seek medical attention.
- Ingestion** : As this product is a gas, refer to the inhalation section.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following: pain or irritation, watering, redness
- Inhalation** : Adverse symptoms may include the following: respiratory tract irritation, coughing
- Skin contact** : Adverse symptoms may include the following: irritation, redness
- Ingestion** : No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

## Section 5. Fire-fighting measures

- Specific hazards arising from the chemical** : Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
halogenated compounds  
carbonyl halides
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### Methods and materials for containment and cleaning up

- Small spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.
- Large spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe gas. Avoid release to the environment. Refer to special instructions/safety data sheet. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting



## Section 7. Handling and storage

and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

### Advice on general occupational hygiene

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### Conditions for safe storage, including any incompatibilities

: Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
bromomethane	<p><b>ACGIH TLV (United States, 3/2017).</b>  <b>Absorbed through skin.</b>            TWA: 3.9 mg/m<sup>3</sup> 8 hours.            TWA: 1 ppm 8 hours.</p> <p><b>OSHA PEL (United States, 6/2016).</b>  <b>Absorbed through skin.</b>            CEIL: 80 mg/m<sup>3</sup>            CEIL: 20 ppm</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b>  <b>Absorbed through skin.</b>            TWA: 20 mg/m<sup>3</sup> 8 hours.            TWA: 5 ppm 8 hours.</p>

### Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

### Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

#### Skin protection

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## Section 8. Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Gas. [Compressed gas.]
- Color** : Colorless.
- Molecular weight** : 94.95 g/mole
- Molecular formula** : C-H3-Br
- Boiling/condensation point** : 3.5°C (38.3°F)
- Melting/freezing point** : -93.66°C (-136.6°F)
- Critical temperature** : 190.85°C (375.5°F)
- Odor** : Odorless.
- Odor threshold** : Not available.
- pH** : Not available.
- Flash point** : Closed cup: 536.85°C (998.3°F)
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Lower: 8.6%  
Upper: 15%
- Vapor pressure** : 27.7 (psia)
- Vapor density** : 3.3 (Air = 1)
- Specific Volume (ft<sup>3</sup>/lb)** : 4.0323
- Gas Density (lb/ft<sup>3</sup>)** : 0.248
- Relative density** : Not applicable.
- Solubility** : Not available.
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/water** : 1.99
- Auto-ignition temperature** : 537°C (998.6°F)
- Decomposition temperature** : Not available.
- SADT** : Not available.

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## Section 9. Physical and chemical properties

**Viscosity** : Not applicable.

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow gas to accumulate in low or confined areas.

**Incompatible materials** : Oxidizers

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
bromomethane	LC50 Inhalation Gas.	Rat	850 ppm	1 hours

**IDLH** : 250 ppm

#### Irritation/Corrosion

Not available.

#### Sensitization

Not available.

#### Mutagenicity

Not available.

#### Carcinogenicity

Not available.

#### Classification

Product/ingredient name	OSHA	IARC	NTP
bromomethane	-	3	-

#### Reproductive toxicity

Not available.

#### Teratogenicity

Not available.

#### Specific target organ toxicity (single exposure)

## Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
bromomethane	Category 3	Not applicable.	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
bromomethane	Category 2	Not determined	central nervous system (CNS) and kidneys

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

- Eye contact** : Causes serious eye irritation. Contact with rapidly expanding gas may cause burns or frostbite.
- Inhalation** : Fatal if inhaled. May cause respiratory irritation.
- Skin contact** : Causes skin irritation. Contact with rapidly expanding gas may cause burns or frostbite.
- Ingestion** : As this product is a gas, refer to the inhalation section.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following: pain or irritation, watering, redness
- Inhalation** : Adverse symptoms may include the following: respiratory tract irritation, coughing
- Skin contact** : Adverse symptoms may include the following: irritation, redness
- Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Potential chronic health effects

Not available.

- General** : May cause damage to organs through prolonged or repeated exposure.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : Suspected of causing genetic defects.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Not available.

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## Section 11. Toxicological information

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
bromomethane	Acute EC50 1700 µg/l Fresh water Acute EC50 0.6 µg/l Fresh water	Daphnia - Daphnia magna Fish - Poecilia reticulata	48 hours 96 hours

### Persistence and degradability

Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
bromomethane	1.99	-	low

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

Other adverse effects : No known significant effects or critical hazards.


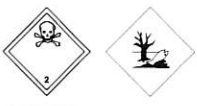



## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

### United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Methyl bromide; Methane, bromo-	74-83-9	Listed	U029

## Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1062	UN1062	UN1062	UN1062	UN1062
UN proper shipping name	METHYL BROMIDE	METHYL BROMIDE	Methyl Bromide	METHYL BROMIDE WITH NOT MORE THAN 2.0% CHLOROPICRIN	METHYL BROMIDE WITH NOT MORE THAN 2% CHLOROPICRIN
Transport hazard class(es)	2.3 	2.3 	2.3 (2.1) 	2.3 	2.3 
Packing group	-	-	-	-	-



## Section 14. Transport information

Environment	Yes.	Yes.	Yes.	Yes.	Yes
<b>Additional information</b>	<p>Toxic - Inhalation hazard Zone B</p> <p>This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a.</p> <p><u>Reportable quantity</u> 1000 lbs / 454 kg Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.</p> <p><u>Limited quantity</u> Yes.</p> <p><u>Packaging instruction</u> <b>Passenger aircraft</b> Quantity limitation: Forbidden.</p> <p><b>Cargo aircraft</b> Quantity limitation: Forbidden.</p> <p><u>Special provisions</u> 3, B14, T50, 153</p>	<p>Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2), 2.7 (Marine pollutant mark).</p> <p>The marine pollutant mark is not required when transported by road or rail.</p> <p><u>Explosive Limit and Limited Quantity Index</u> 0</p> <p><u>ERAP Index</u> 25</p> <p><u>Passenger Carrying Ship Index</u> Forbidden</p>	-	<p>The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.</p>	<p>The environmentally hazardous substance mark may appear if required by other transportation regulations.</p> <p><u>Passenger and Cargo Aircraft</u> Quantity limitation: 0 Forbidden</p> <p><u>Cargo Aircraft Only</u> Quantity limitation: 0 Forbidden</p>

“Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product.”

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL and the IBC Code** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined  
**United States inventory (TSCA 8b):** This material is listed or exempted.  
**Clean Water Act (CWA) 307:** Methyl Bromide

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Listed

**Clean Air Act Section 602 Class II Substances** : Not listed

## Section 15. Regulatory information

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

### SARA 302/304

#### Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
bromomethane	100	Yes.	1000	-	1000	-

SARA 304 RQ : 1000 lbs / 454 kg

### SARA 311/312

Classification : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

### SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Methyl Bromide	74-83-9	100
Supplier notification	Methyl Bromide	74-83-9	100

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

Massachusetts : This material is listed.

New York : This material is listed.

New Jersey : This material is listed.

Pennsylvania : This material is listed.

### California Prop. 65

**WARNING:** This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Methyl Bromide	No.	Yes.	No.	810 µg/day (inhalation)

### International regulations

#### Montreal Protocol (Annexes A, B, C, E)

Ingredient name	List name	Status
methyl bromide	Montreal protocol (Annexes A, B, C, E)	Annex E, Group I

### International lists

#### National inventory

Australia : This material is listed or exempted.

Canada : This material is listed or exempted.

China : This material is listed or exempted.

Europe : This material is listed or exempted.

Japan : **Japan inventory (ENCS):** This material is listed or exempted.  
**Japan inventory (ISHL):** This material is listed or exempted.

Malaysia : Not determined.

New Zealand : This material is listed or exempted.

Philippines : This material is listed or exempted.



## Section 15. Regulatory information

**Republic of Korea** : This material is listed or exempted.

**Taiwan** : This material is listed or exempted.

### Canada

**WHMIS (Canada)** : Class A: Compressed gas.  
 Class D-1A: Material causing immediate and serious toxic effects (Very toxic).  
 Class D-2B: Material causing other toxic effects (Toxic).  
 Class E: Corrosive material

**CEPA Toxic substances:** This material is listed.  
**Canadian ARET:** This material is not listed.  
**Canadian NPRI:** This material is listed.  
**Alberta Designated Substances:** This material is not listed.  
**Ontario Designated Substances:** This material is not listed.  
**Quebec Designated Substances:** This material is not listed.

## Section 16. Other information

**Canada Label requirements** : Class A: Compressed gas.  
 Class D-1A: Material causing immediate and serious toxic effects (Very toxic).  
 Class D-2B: Material causing other toxic effects (Toxic).  
 Class E: Corrosive material

### Hazardous Material Information System (U.S.A.)

Health	*	2
Flammability		4
Physical hazards		3

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

### National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

### Procedure used to derive the classification



## Section 16. Other information

Classification	Justification
Flam. Gas 1, H220	On basis of test data
Press. Gas Comp. Gas, H280	According to package
Acute Tox. 2, H330	On basis of test data
Skin Irrit. 2, H315	Expert judgment
Eye Irrit. 2A, H319	Expert judgment
Muta. 2, H341	Expert judgment
STOT SE 3, H335	Expert judgment
STOT RE 2, H373 (central nervous system (CNS), kidneys)	Expert judgment
Aquatic Acute 1, H400	On basis of test data
Aquatic Chronic 1, H410	Expert judgment
Ozone 1, H420	Expert judgment

### History

<b>Date of printing</b>	: 9/12/2017
<b>Date of issue/Date of revision</b>	: 9/12/2017
<b>Date of previous issue</b>	: No previous validation
<b>Version</b>	: 1
<b>Key to abbreviations</b>	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations

**References** : Not available.

**Indicates information that has changed from previously issued version.**

**Other special considerations** : WARNING: Contains (Methyl bromide), a substance which harms the public health and environment by destroying ozone in the upper atmosphere.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.