



**Maryland**  
Department of  
the Environment

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**State of Maryland  
0.075 ppm 8-Hour Ozone  
Volatile Organic Compound  
Reasonable Available Control Technology  
(VOC RACT)  
State Implementation Plan**

**July 26, 2016**  
***SIP Number:* 16-13**

**Prepared for:**  
**U.S. Environmental Protection Agency**

**Prepared by:**  
**Maryland Department of the Environment**



**MARYLAND DEPARTMENT OF THE ENVIRONMENT**  
**75 ppb 8- Hour Ozone**  
**VOC RACT SIP**

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# VOC RACT

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## 1. INTRODUCTION

On March 12, 2008, the United States Environmental Protection Agency (EPA) announced its revisions to the National Ambient Air Quality Standards (NAAQS) for ozone.<sup>1</sup> This action revised the primary and secondary standards to a level of 0.075 parts per million (ppm) over an 8-hour period. The EPA's final rule *Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements* set out the requirements for Reasonable Available Control Technology (RACT) State Implementation Plans<sup>2</sup>.

This document consists of Maryland's State Implementation Plan (SIP) Revision developed for the purpose of meeting the RACT requirements set forth by the Clean Air Act (CAA), as the requirements apply to the 0.075 ppm 8-hour ozone National Ambient Air Quality Standard (NAAQS). This document is hereafter referred to as "Maryland's 8-hour Ozone VOC RACT SIP", or simply as "the VOC RACT SIP." This document is a revised and updated version of the RACT SIP that Maryland submitted in 2011, in response to the 1997 0.08 ppm 8-hr ozone standard.

### 1.1 BACKGROUND AND REQUIREMENTS

#### 1.1.1 Health Effects of Ozone

Ground level ozone, one of the principal components of "smog," is a serious air pollutant that harms human health and the environment. High levels of ozone can damage the respiratory system and cause breathing problems, throat irritation, coughing, chest pains, and greater susceptibility to respiratory infection. High levels of ozone also cause serious damage to forests and agricultural crops, resulting in economic losses to logging and farming operations.

Ozone is generally not directly emitted to the atmosphere; rather it is formed in the atmosphere by photochemical reactions between volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) in the presence of sunlight. Consequently, in order to reduce ozone concentrations in the ambient air, the CAA requires all nonattainment areas to apply controls on VOC/NO<sub>x</sub> emission sources to achieve emission reductions.

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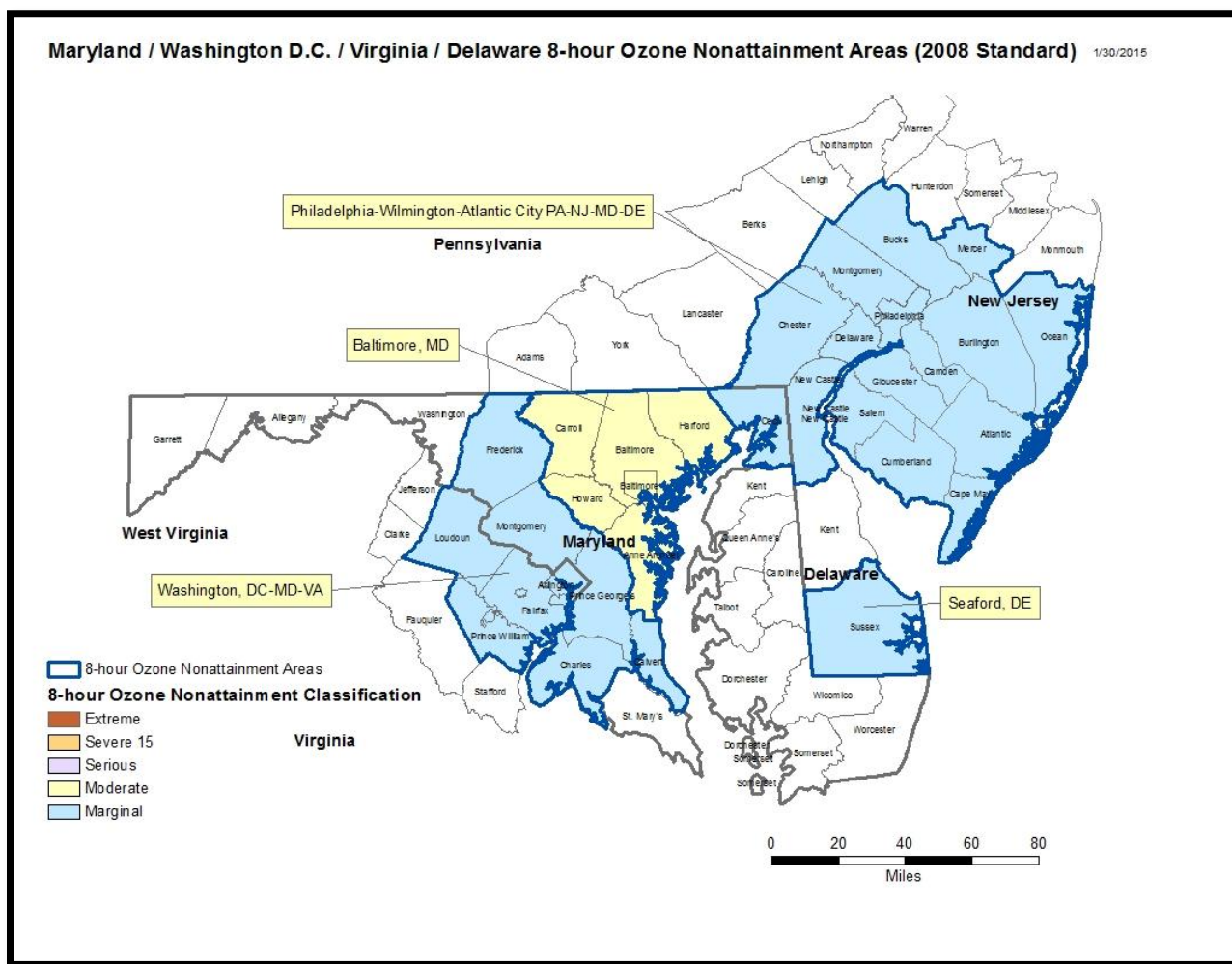
<sup>1</sup> 73 FR 16436; published March 27, 2008; effective May 27, 2008

<sup>2</sup> 80 FR 12264, published March 6, 2015; effective April 6, 2015.

### 1.1.2 Maryland's Ozone Designation

On May 21, 2012, EPA designated three areas in Maryland as “nonattainment” under the 8-hour ozone NAAQS<sup>3</sup>. These nonattainment areas are; the Baltimore Nonattainment Area (classified as Moderate), the Washington D.C. Nonattainment Area (Marginal), and the Philadelphia Nonattainment Area (Marginal). All other remaining Maryland counties are part of the Ozone Transport Region (OTR). Please reference Figure 1 below.

**Figure 1: Maryland/Washington D.C./Virginia/Delaware 8-hour Ozone Nonattainment Areas (2008 Standard), 1/30/2015<sup>4</sup>**



### 1.1.3 CAA RACT Requirements

The U.S. Environmental Protection Agency (EPA) has defined RACT as “the lowest emission limitation that a particular source is capable of meeting by the application of control technology

<sup>3</sup> 77 FR 30088, published May 21, 2012; effective July 20, 2012.

<sup>4</sup> [http://www.epa.gov/oaqps001/greenbk/map/mddcvade8\\_2008.pdf](http://www.epa.gov/oaqps001/greenbk/map/mddcvade8_2008.pdf)

that is reasonably available considering technological and economic feasibility”<sup>5</sup>. Section 182(b)(2) of the CAA, applies to moderate or worse ozone nonattainment areas around the country. It requires these areas to implement RACT controls on all sources and source categories that are covered by a Control Technique Guideline (CTG) document issued by EPA prior to the enactment of the Clean Air Act Amendments of 1990 or since then, and on all other major stationary VOC emissions sources, referred to as “non-CTG sources.” Under CAA Section 184(b)(1)(B), requirements comparable to those established under Section 182(b)(2) are applicable to all areas in ozone transport regions. Under Section 182(f), the CAA establishes that Subpart 2 requirements applicable to major stationary sources of VOCs, such as RACT requirements under Section 182(b)(2), are also applicable to major stationary sources of NO<sub>x</sub>. Under Section 183 of the CAA, EPA was required to issue by certain timeframes several guidance documents that would help states meet the requirements of Section 182(b)(2). This requirement upon EPA includes developing (1) CTG documents for control of VOC emissions from stationary sources, and (2) Alternate Control Techniques (ACT) documents for controls of VOC and NO<sub>x</sub> emissions from stationary sources.

Accordingly, EPA initially issued three groups of CTG documents: Group I, issued before January 1978; Group II, issued in 1978; and Group III, issued in the early 1980s. These established a “presumptive norm” for RACT for various categories of VOC sources. Since the early 1980s, the EPA has issued over a dozen additional CTG documents for VOC sources, and the EPA has also issued over a dozen ACTs for various categories of VOCs and NO<sub>x</sub> sources.

In general, states meet the CAA RACT requirements by imposing controls that meet the requirements established in final CTG documents. Information in ACT documents is also available to states to consider as they establish controls on relevant VOC and NO<sub>x</sub> sources in their moderate or worse nonattainment areas. In areas with continuing nonattainment problems, such as the Baltimore Nonattainment Area, more stringent controls than those in the CTGs have been adopted as RACT or as beyond RACT.

#### **1.1.4 Major Source Threshold Levels**

Maryland has retained its major source levels at 25 tons per year for VOC and NO<sub>x</sub> sources in the Baltimore, Washington, DC, and Philadelphia nonattainment areas. It has retained its major source levels at 50 tons per year for VOC and 100 tons per year for NO<sub>x</sub> in all remaining Maryland counties. These major source thresholds were established when these metropolitan areas were classified as “severe” under the 1-hour ozone standard although these areas are now classified as “moderate” or “marginal.” The thresholds for the rest of the counties in Maryland are consistent with CAA requirements for the Northeast Ozone Transport Region (OTR).

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<sup>5</sup> 44 FR 53761 and 53762, September 17, 1979

**Table 1.1 Major Source RACT Threshold Levels**

<b>County Name</b>	<b>County FIPS</b>	<b>Ozone NAA</b>	<b>RACT NOX Threshold</b>	<b>RACT VOC Threshold</b>
Allegany	24001	Attain	100	50
Anne Arundel	24003	BNAA	25	25
Baltimore	24005	BNAA	25	25
Calvert	24009	MWCOG	25	25
Caroline	24011	Attain	100	50
Carroll	24013	BNAA	25	25
Cecil	24015	Philly	25	25
Charles	24017	MWCOG	25	25
Dorchester	24019	Attain	100	50
Frederick	24021	MWCOG	25	25
Garrett	24023	Attain	100	50
Harford	24025	BNAA	25	25
Howard	24027	BNAA	25	25
Kent	24029	KQA	100	50
Montgomery	24031	MWCOG	25	25
Prince Georges	24033	MWCOG	25	25
Queen Annes	24035	KQA	100	50
Saint Marys	24037	Attain	100	50
Somerset	24039	Attain	100	50
Talbot	24041	Attain	100	50
Washington	24043	Attain	100	50
Wicomico	24045	Attain	100	50
Worcester	24047	Attain	100	50
Baltimore City	24510	BNAA	25	25

## 1.2 RESPONSIBILITIES

The agency with direct responsibility for preparing and submitting this document is the Maryland Department of the Environment (MDE), Air and Radiation Management Administration (ARMA), Air Quality Planning Program, managed by Brian J. Hug, Program Manager.

## **2. RACT SIP DETERMINATION**

### **2.1 CERTIFICATION OF VOC RACT**

The Maryland Department of the Environment (MDE) has prepared this Reasonably Available Control Technology (RACT) analysis to demonstrate that the State has met its obligation relating to the 2008 8-hour ozone National Ambient Air Quality Standard (NAAQS). MDE is certifying that all RACT regulations adopted to the present date are RACT for the 2008 8-hour ozone NAAQS as they reflect the most current pollution control technologies and economic considerations. Based on the review of current technologies, MDE has found no data indicating that the existing levels of control for these source categories are no longer RACT.

Maryland has retained its major source levels at 25 tons per year for VOC and NO<sub>x</sub> sources in the Baltimore, Washington, DC, and Philadelphia (Cecil County, Maryland) nonattainment areas. These major source thresholds are consistent with the areas that were classified as “severe” in the state although these areas are now classified as “moderate” or “marginal.”

Major source levels remain at 50 tons per year for VOC and 100 tons per year for NO<sub>x</sub> in all remaining Maryland counties which are part of the Ozone transport Region (see Table 1.1).

Maryland is also certifying through this SIP that, except as provided for herein, Maryland meets the CAA RACT requirements for the 50 TPY non-CTG major VOC sources and for 100 TPY NO<sub>x</sub> sources, and that all CTG-covered categories are addressed at the cut-off level set in the CTG (or in “Issues Related to VOC Regulation Cutpoints, Deficiencies and Deviations, Clarification to Appendix D” (also known as the “Blue Book”) for those CTG categories for which the original CTG set no cut-off)<sup>6</sup>.

This certification is based on a combination of (1) certification that previously adopted RACT controls in Maryland’s SIP that were approved by EPA under the 1997 8-hour ozone NAAQS are based on the current availability of technically and economically feasible controls and that they represent RACT for 8-hour implementation purposes, (2) the adoption of new or more stringent regulations that represent RACT control levels, or (3) a Negative Declaration for all such CTG categories for which there are no affected facilities in Maryland. The requirements in Table 2.1 and Table 2.2 are certified as RACT with respect to the 0.075 ppm 8-hour Ozone NAAQS.

#### **2.1.1 Overview of COMAR Requirements**

Code of Maryland Regulations (COMAR) 26.11.06, 26.11.10, 26.11.11, 26.11.13, 26.11.14, 26.11.19, and 26.11.24 represent Maryland’s VOC RACT controls that were implemented and approved into the Maryland SIP under the 1997 8-hour ozone NAAQS. Maryland also uses COMAR 26.11.06.06 to achieve significant reductions from unique VOC sources.

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<sup>6</sup> November 24, 1987 Federal Register,” dated May 25, 1988



## 2.2 CTG SOURCES

EPA initially issued three sets of CTG documents establishing a "presumptive norm" for RACT for several VOC source categories. The initial three sets of CTGs were: Group I – issued before January 1978; Group II – issued in 1978; and Group III – issued in the early 1980's. Additional CTGs were later issued between December 1992 and September 2008. VOC ACT documents were issued between 1983 and 1994, while NOx ACT documents were issued between 1992 and 1995, along with September 2000 updates to the stationary internal combustion engine and cement kiln ACTs.

For sources for which a Control Technology Guidance (CTG) document has been published, RACT is addressed if a state imposes controls equivalent to the CTG for that source category. Table 2.1 lists the current CTG documents and identifies the corresponding regulations that Maryland has adopted to achieve emission reductions equivalent to the CTGs. As explained below, Maryland reasserts that these regulations are consistent with the CTGs, or where appropriate, recertifies that the source category does not exist within the state. Section 2.2.1 lists the CTGs that have not been adopted in Maryland because there are no sources of the CTG type.

**Table 2.1 Control Technology Guideline RACT**

CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Aerospace	<p>Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations, EPA-453/R-97-004, Dec. 1997.  <a href="https://www3.epa.gov/airquality/ctg_act/199712_voc_epa453_r-97-004_aerospace_rework.pdf">https://www3.epa.gov/airquality/ctg_act/199712_voc_epa453_r-97-004_aerospace_rework.pdf</a></p> <p>Aerospace (MACT) 59 FR-29216 6/06/94-1994/06.  <a href="https://www3.epa.gov/airquality/ctg_act/59FR_1994-06-06_29216.pdf">https://www3.epa.gov/airquality/ctg_act/59FR_1994-06-06_29216.pdf</a></p>	<p><b>COMAR 26.11.19.13-1</b>  Aerospace Coating Operations</p>	<p>SIP# 00-10  Adopted 9/11/2000  Approved 11/7/2001</p> <p>SIP# 01-10  Adopted 9/25/2001  Approved 11/7/2001</p>	<p>Applies to aerospace coating operations that emit more than 20 lbs of VOC per day. Emission limits for coating types range from 1.3 to 3.5 pounds per gallon. For over 50 specialty coatings the standards go up to 10 lbs/gal.</p>

CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Automobile Coating	<p>Control Techniques Guidelines for Automobile and Light-Duty Truck Assembly Coatings (PDF 44 pp, 2.64MB) EPA 453/R-08-006-2008/09.  <a href="https://www3.epa.gov/airquality/ctg_act/200809_voc_epa453_r-08-006_auto_ldtruck_assembly_coating.pdf">https://www3.epa.gov/airquality/ctg_act/200809_voc_epa453_r-08-006_auto_ldtruck_assembly_coating.pdf</a></p> <p>Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Primer-Surfacer and Topcoat Operations (PDF 129 pp, 450KB) EPA 453/R-08-002-2008/09.  <a href="https://www3.epa.gov/airquality/ctg_act/200809_voc_epa453_r-08-002_auto_ldtruck_vocemisrate_protocol.pdf">https://www3.epa.gov/airquality/ctg_act/200809_voc_epa453_r-08-002_auto_ldtruck_vocemisrate_protocol.pdf</a></p> <p>Control of Volatile Organic Emissions from Existing Stationary Sources, Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks, EPA-450/2-77-008, May 1977.  <a href="https://www3.epa.gov/airquality/ctg_act/197705_voc_epa450_2-77-008_surface_coatings(v2).pdf">https://www3.epa.gov/airquality/ctg_act/197705_voc_epa450_2-77-008_surface_coatings(v2).pdf</a></p>	COMAR <b>26.11.19.03</b> is in place. However there are no longer any applicable sources in Maryland.	<p>SIP # 83-03 Adopted 6/24/1983 Approved 9/10/1984</p> <p>SIP # 98-01 Adopted 8/18/1997 Approved 11/5/1998</p> <p>SIP # 15-03 Negative Declaration for Automobile Coating. EPA Approved 12/11/15<sup>7</sup></p>	<p>All affected sources closed. GM Plant permanently shut down September 2005.</p> <p>COMAR 26.11.19.03 may be repealed in the future because MD no longer has any affected sources.</p>

<sup>7</sup> MDE did not adopt a new regulation, so there is no MDE Adopted Date.

CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Cutback Asphalt	Control of Volatile Organic Compounds from Use of Cutback Asphalt, EPA-450/2-77-037, December 1977 (Group I). <a href="https://www3.epa.gov/airquality/ctg_act/197712_voc_epa450_2-77-037_cutback_asphalt.pdf">https://www3.epa.gov/airquality/ctg_act/197712_voc_epa450_2-77-037_cutback_asphalt.pdf</a>	<b>COMAR 26.11.11.01</b> Control of Petroleum Products Installations, including Asphalt Paving and Asphalt Concrete Plants  <b>COMAR 26.11.11.02 B &amp; C</b>	SIP# 81-01 Adopted 4/8/81 Approved 5/11/82  SIP # 83-03 Adopted 6/24/1983 Approved 9/10/84  SIP # 93-05 Adopted 3/26/93 Approved 1/6/95	Applies to the manufacture, mixing, storage, use, and application of cutback and emulsified asphalts. Restricts cutback asphalt during the ozone season without approval.  Extended applicability statewide.
Dry Cleaning (Large Petroleum)	Control of Volatile Organic Compound Emissions from Large Petroleum Dry Cleaners, EPA-450/3-82-009, September 1982 (Group III). <a href="https://www3.epa.gov/airquality/ctg_act/198209_voc_epa450_3-82-009_large_dry_cleaners.pdf">https://www3.epa.gov/airquality/ctg_act/198209_voc_epa450_3-82-009_large_dry_cleaners.pdf</a>  Control of Volatile Organic Emissions from Perchloroethylene Dry Cleaning Systems, EPA-450/2-78-050, Dec. 1978 (Group II). <a href="https://www3.epa.gov/airquality/ctg_act/197812_voc_epa450_2-78-050_pce_dry_cleaning.pdf">https://www3.epa.gov/airquality/ctg_act/197812_voc_epa450_2-78-050_pce_dry_cleaning.pdf</a>	<b>COMAR 26.11.19.12</b> Dry Cleaning Installations	SIP# 81-01 Adopted 4/8/1981 Approved 5/11/1982  SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984  SIP# 91-02 Adopted 4/21/1989 Approved 11/29/1994  SIP# 98-02 Adopted 8/18/1997 Approved 9/2/1998  SIP# 91-03 Adopted 7/24/1991 Approved 9/7/1994	Applies to petroleum dry cleaning facilities that consume 6000 gallons or more petroleum solvent per year. The rule establishes emission limits or reduction requirements for emissions, inspection, repair and reporting requirements for dryers, filtration systems, and other equipment.

CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Fabric Coating and Paper, Film and Foil Coating	<p>Control of Volatile Organic Emissions from Existing Stationary Sources, Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks, EPA-450/2-77-008, May 1977.  <a href="https://www3.epa.gov/airquality/ctg_act/197705_voc_epa450_2-77-008_surface_coatings(v2).pdf">https://www3.epa.gov/airquality/ctg_act/197705_voc_epa450_2-77-008_surface_coatings(v2).pdf</a></p> <p>Control Techniques Guidelines for Paper, Film, and Foil Coatings, EPA453/R-07-003, September 2007.  <a href="https://www3.epa.gov/airquality/ctg_act/200709_voc_epa453_r-07-003_paper_film_coating.pdf">https://www3.epa.gov/airquality/ctg_act/200709_voc_epa453_r-07-003_paper_film_coating.pdf</a></p>	<b>COMAR 26.11.19.07</b> Paper, Fabric, Film and Foil Coating	<p>SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984</p> <p>SIP# 91-02 Adopted 3/9/1991 Approved 11/29/1994</p> <p>SIP# 91-03 Adopted 7/24/1991 Approved 9/7/1994</p> <p>SIP# 93-02 Adopted 1/18/1993 Approved 9/7/1994</p> <p>SIP# 95-11 Adopted 5/5/1995 Approved 9/2/1997</p> <p>SIP# 95-17 Adopted 5/5/1995 Approved 9/2/1997</p> <p>SIP# 99-04 Adopted 8/6/1997 &amp; 8/4/1998 Approved 1/14/2000</p> <p>SIP# 10-02 Adopted 3/21/2010 Approved 9/27/2010</p>	<p>Applies to any paper, fabric, film or foil coating unit.</p> <p>Establishes coating VOC content limits specific to operations.</p>

CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Fiberglass Boat	Control Techniques Guidelines for Fiberglass Boat Manufacturing Materials (PDF pp. 41, 336KB) EPA 453/R-08-004-2008/09. <a href="http://www.epa.gov/ttn/caaa/t1/ctg/fiberglass_boat_ctg_093008.pdf">http://www.epa.gov/ttn/caaa/t1/ctg/fiberglass_boat_ctg_093008.pdf</a>	<b>COMAR <u>26.11.19.26-1</u></b> Fiberglass Boat Manufacturing	SIP# 15-07 Adopted 9/03/2015 Approval Pending	New COMAR 26.11.19.26-1 is the location for the Fiberglass Boat regulation. (26.11.19.26 remains reinforced plastic manufacturing)
Flexible Package Printing	Control Techniques Guidelines for Flexible Package Printing (PDF 33 pp, 216KB) EPA-453/R-06-003-2006/09. <a href="https://www3.epa.gov/airquality/ctg_act/200609_voc_epa453_r-06-003_flexible_package_printing.pdf">https://www3.epa.gov/airquality/ctg_act/200609_voc_epa453_r-06-003_flexible_package_printing.pdf</a>	<b>COMAR <u>26.11.19.10-1</u></b> Flexible Package Printing	SIP# 10-04 Adopted 3/21/2010 Approved 9/27/2010	Applies to any flexible package printing operations.

CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Bulk Gasoline Plants	Control of Volatile Organic Emissions from Bulk Gasoline Plants, EPA-450/2-77- 035, December 1977 (Group I). <a href="https://www3.epa.gov/airquality/ctg_act/197712_voc_epa450_2-77-035_bulk_gasoline_plants.pdf">https://www3.epa.gov/airquality/ctg_act/197712_voc_epa450_2-77-035_bulk_gasoline_plants.pdf</a>	<b>COMAR</b> <b><u>26.11.13.04 A</u></b> Loading Operations – Bulk Gasoline Terminals  <b>COMAR</b> <b><u>26.11.13.04 B</u></b> Loading Operations – Bulk Gasoline Plants	SIP# 92-01 Adopted 3/9/1991 Approved 1/6/1995  SIP# 93-02 Adopted 1/18/1993 Approved 9/7/1994  SIP# 93-05 Adopted 3/26/1993 Approved 1/6/1995  SIP# 81-01 Adopted 4/8/1981 Approved 5/11/1982	Applies to all the loading racks at any bulk gasoline terminal that delivers liquid product into gasoline tank trucks. A vapor collection and control system designed to collect and destroy the organic compound liquids or vapors displaced from gasoline tank trucks during product loading is required and various other equipment and operational requirements are also included.

CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Graphic Arts	Control of Volatile Organic Emissions from Existing Stationary Sources, Volume VIII: Graphic Arts - Rotogravure and Flexography, EPA-450/2-78-033, December 1978 (Group II). <a href="https://www3.epa.gov/airquality/ctg_act/197812_voc_epa450_2-78-033_graphic_arts(v8).pdf">https://www3.epa.gov/airquality/ctg_act/197812_voc_epa450_2-78-033_graphic_arts(v8).pdf</a>	<b>COMAR 26.11.19.10</b> Flexographic and Rotogravure	SIP# 81-01 Adopted 4/8/1981 Approved 5/11/1982  SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984  SIP# 91-02 Adopted 3/9/1991 Approved 11/29/1994  SIP# 93-05 Adopted 3/26/1993 Approved 1/6/1995  SIP# 95-11 Adopted 5/5/1995 Approved 9/2/1997	Applies to any packaging rotogravure, publication rotogravure, or flexographic printing process at a facility. The rule establishes the limits of VOC contents in coatings and inks used in the covered facilities, and specifies standards for control devices for various printing processes.



CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Industrial Adhesives	Control Techniques Guidelines for Miscellaneous Industrial Adhesives (PDF 47 pp, 350KB) EPA 453/R-08-005-2008/09. <a href="https://www3.epa.gov/airquality/ctg_act/200809_voc_epa453_r-08-005_miscellaneous_industrial_adhesives.pdf">https://www3.epa.gov/airquality/ctg_act/200809_voc_epa453_r-08-005_miscellaneous_industrial_adhesives.pdf</a>	<b>COMAR 26.11.35</b> Volatile Organic Compounds from Adhesives and Sealants	SIP # 09-01 Adopted 4/29/2009 Approved 10/18/2011  SIP # 08-02 Adopted 3/17/2008 Approved 10/18/2011	Applies to any person who uses or applies, for compensation or facilities maintenance, an adhesive, sealant, adhesive primer, or sealant primer within the State.  This rule also applies to other products and conduct not covered by the CTG. These other categories area certain sealants and any person who sells, supplies, offers for sale, or manufactures for sale in the State an adhesive, sealant, adhesive primer, or sealant primer for use in the State. (COMAR 26.11.35 was born from the 2009 Ozone Transport Commission model rule on Adhesives and Sealants.)

CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Large Appliances	<p>Control Techniques Guidelines for Large Appliance Coatings (PDF 44 pp, 374KB) EPA 453/R-07-004-2007/09. <a href="http://www.epa.gov/ttn/caaa/t1/ctg/20070928_large_app_ctg.pdf">http://www.epa.gov/ttn/caaa/t1/ctg/20070928_large_app_ctg.pdf</a></p> <p>Control of Volatile Organic Emissions from Existing Stationary Sources, Volume V: Surface Coating of Large Appliances, EPA-450/2-77-034, Dec. 1977 (Group I). <a href="https://www3.epa.gov/airquality/ctg_act/197712_voc_epa450_2-77-034_surface_coatings(v5).pdf">https://www3.epa.gov/airquality/ctg_act/197712_voc_epa450_2-77-034_surface_coatings(v5).pdf</a></p>	<b>COMAR 26.11.19.06</b> Large Appliance Coating	<p>SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984</p> <p>SIP# 10-09 Adopted 9/24/2010 Approved 5/15/2011</p>	<p>A person who uses a large appliance coating installation:</p> <p>(a) May not cause or permit the discharge into the atmosphere of any VOC from a large appliance coating installation in excess of 2.3 pounds per gallon of coating applied (excluding water) (0.275 kilogram/liter of coating applied (excluding water)); or</p> <p>(b) Shall use control equipment to achieve an overall VOC emissions reduction of 90 percent or greater from the large appliance coating installation at the affected facility.</p>

CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Metal Coils, and, Metal Containers and Closures	Control of Volatile Organic Emissions from Existing Stationary Sources, Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks, EPA-450/2-77-008, May 1977. <a href="https://www3.epa.gov/airquality/ctg_act/197705_voc_epa450_2-77-008_surface_coatings(v2).pdf">https://www3.epa.gov/airquality/ctg_act/197705_voc_epa450_2-77-008_surface_coatings(v2).pdf</a>	<b>COMAR <u>26.11.19.04</u></b> Can Coating  <b>COMAR <u>26.11.19.05</u></b> Coil Coating	SIP # 83-03 Adopted 6/24/1983 Approved 9/10/1984  SIP # 83-03 Adopted 6/24/1983 Approved 9/10/1984	Applies to any coil coating operation and required use of compliant coatings with a VOC content of 2.8 to 5.5 lbs/gal.  Applies to any coil coating operation and required use of compliant coatings with a VOC content of less than or equal 2.6 lbs/gal.

CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Metal Parts and Products - Drum and Pail Coating	<p>Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings September 2008 (PDF 143 pp, 897KB) EPA 453/R-08-003-2008/09.  <a href="http://www.epa.gov/ttn/caaa/t1/ctg/miscmetal_ctg093008.pdf">http://www.epa.gov/ttn/caaa/t1/ctg/miscmetal_ctg093008.pdf</a></p> <p>Control of Volatile Organic Emissions from Existing Stationary Sources, Volume VI: Surface Coating of Miscellaneous Metal Parts and Products, EPA-450/2-78-015, June 1978 (Group II).  <a href="https://www3.epa.gov/airquality/ctg_act/197806_voc_epa450_2-78-015_surface_coatings(v6).pdf">https://www3.epa.gov/airquality/ctg_act/197806_voc_epa450_2-78-015_surface_coatings(v6).pdf</a></p>	<b>COMAR 26.11.19.13</b> Drum and Pail Coating	<p>SIP# 81-01 Adopted 4/8/1981 Approved 5/11/1982</p> <p>SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984</p> <p>SIP# 91-02 Adopted 3/9/1991 Approved 11/29/1994</p> <p>SIP# 99-01 Adopted 6/5/1998 Approved 6/17/1999</p> <p>SIP # 99-03 Adopted 8/4/1998 Approved 6/17/1999</p> <p>SIP# 01-10 Adopted 9/25/2001 Approved 11/7/2001</p> <p>SIP# 11-04 Adopted 4/14/2011 Approved 10/17/2011</p>	This regulation applies to any drum or pail coating operations at a premises where the total VOC emissions exceed 15 pounds (6.8 kilograms) per day.

CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Metal Parts and Products	<p>Control Techniques Guidelines for Metal Furniture Coating. September 2007 (PDF 100 pp, 293KB) EPA 453/R-07-005-2007/09.  <a href="https://www3.epa.gov/airquality/ctg_act/200709_voc_epa453_r-07-005_metal_furniture_coating.pdf">https://www3.epa.gov/airquality/ctg_act/200709_voc_epa453_r-07-005_metal_furniture_coating.pdf</a></p> <p>Control of Volatile Organic Emissions from Existing Stationary Sources, Volume III: Surface Coating of Metal Furniture, EPA-450/2-77-032, Dec. 1977 (Group I).  <a href="https://www3.epa.gov/airquality/ctg_act/197712_voc_epa450_2-77-032_surface_coatings(v3).pdf">https://www3.epa.gov/airquality/ctg_act/197712_voc_epa450_2-77-032_surface_coatings(v3).pdf</a></p>	<b>COMAR 26.11.19.08</b> Metal Parts and Product Coating	<p>SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984</p> <p>SIP# 14-02 Adopted 4/29/2014 Approved 10/1/2015</p>	<p>This regulation applies to a person who owns or operates:</p> <p>(a) A metal furniture coating installation; or</p> <p>(b) A metal parts and products coating operation at a premises where the total VOC emissions from all metal parts and products surface coating operations (including emissions from related cleaning activities), exceed 15 pounds (6.8 kilograms) per day.</p>

CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Metal & Plastic Parts Coating – Pleasure Craft, Plastic Parts and Business Machine Coating, and Miscellaneous Metal Parts and Products	Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings (PDF 143 pp, 897KB) EPA 453/R-08-003-2008/09. <a href="http://www.epa.gov/ttn/caaa/t1/ctg/miscmetal_ctg093008.pdf">http://www.epa.gov/ttn/caaa/t1/ctg/miscmetal_ctg093008.pdf</a>	<b>COMAR 26.11.19.27-1</b> Pleasure Craft Coating Operations	SIP# 12-08 Adopted 10/22/2012 Approved 9/26/2013	Applies to pleasure craft coating operations.
	Control of Volatile Organic Emissions from Existing Stationary Sources, Volume VI: Surface Coating of Miscellaneous Metal Parts and Products, EPA-450/2-78-015, June 1978 (Group II). <a href="https://www3.epa.gov/airquality/ctg_act/197806_voc_epa450_2-78-015_surface_coatings(v6).pdf">https://www3.epa.gov/airquality/ctg_act/197806_voc_epa450_2-78-015_surface_coatings(v6).pdf</a>	<b>COMAR 26.11.19.07-1</b> Solid Resin Decorative Surface Manufacturing	SIP# 99-02 Adopted 5/20/1998 Approved 6/17/1999	Applies to a person who owns or operates a solid resin decorative surface manufacturing facilities that is a major stationary source of VOC
		<b>COMAR 26.11.19.07-2</b> Plastic Parts and Business Machine Coating	SIP# 11-03 Adopted 4/14/2011 Approved 10/17/2011	Applies to a person who owns or operates a metal furniture coating installation.
	Control Techniques Guidelines for Metal Furniture Coating. September 2007 (PDF 100 pp, 293KB) EPA 453/R-07-005-2007/09. <a href="https://www3.epa.gov/airquality/ctg_act/200709_voc_epa453_r-07-005_metal_furniture_coating.pdf">https://www3.epa.gov/airquality/ctg_act/200709_voc_epa453_r-07-005_metal_furniture_coating.pdf</a>	<b>COMAR 26.11.19.08</b> Metal Parts and Product Coating	SIP # 83-03 Adopted 6/24/1983 Approved 9/10/1984  SIP# 14-02 Adopted 4/29/2014 Approved 10/01/2015.	Applies to a person who owns or operates a metal parts and products coating operation at a premises where the total VOC emission from all metal parts and products surface coating operations (including emission from related cleaning activities) exceed 15 lb/day.

CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Marine Vessel Coating (Ships) Operations	Control Techniques Guidelines for Shipbuilding and Ship Repair Operations (Surface Coating), 61 FR-44050 8/27/96, August 1996. <a href="https://www3.epa.gov/airquality/ctg_act/199404_voc_epa453_r-94-032_shipbuilding_repair.pdf">https://www3.epa.gov/airquality/ctg_act/199404_voc_epa453_r-94-032_shipbuilding_repair.pdf</a>  <a href="https://www3.epa.gov/airquality/ctg_act/61FR_1996-08-27_44050.pdf">https://www3.epa.gov/airquality/ctg_act/61FR_1996-08-27_44050.pdf</a>	<b>COMAR 26.11.19.27</b> Control of Volatile Organic Compounds from Marine Vessel Coating Operations	SIP #98-17 Adopted 9/12/1997 Approved 9/5/2001	This regulation applies to marine vessel coating operations at a premises where the total potential to emit VOC emissions equals or exceeds 25 tons (22.75 metric tons) per year or actual emissions of 20 pounds (9 kilograms) per day from all marine vessel coating operations at the premises.
Pharmaceutical Products	Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products, 450/2-78-029, December 1978 (Group II). <a href="https://www3.epa.gov/airquality/ctg_act/197812_voc_epa450_2-78-029_pharmaceutical_products.pdf">https://www3.epa.gov/airquality/ctg_act/197812_voc_epa450_2-78-029_pharmaceutical_products.pdf</a>	<b>COMAR 26.11.19.14</b> Manufacture of Synthesized Pharmaceutical Products	SIP# 81-01 Adopted 4/8/1981 Approved 5/11/1982  SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984  SIP# 91-02 Adopted 3/9/1991 Approved 11/29/1994	Applies to control of emissions from reactor, distillation operation, crystallizer centrifuge and vacuum dryer, establishing a control efficiency of 90 percent or more. Vapor balance systems are also required.

CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Printing Industries - offset lithographic and letterpress	<p>Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing (PDF 52 pp, 349KB) EPA-453/R-06-002-2006/09.  <a href="https://www3.epa.gov/airquality/ctg_act/200609_voc_epa453_r-06-002_litho_letterpress_printing.pdf">https://www3.epa.gov/airquality/ctg_act/200609_voc_epa453_r-06-002_litho_letterpress_printing.pdf</a></p> <p>Control of Volatile Organic Compound Emissions from Offset Lithographic Printing - Draft, September 1993. EPA-453/D-95-001-1993/0.9  <a href="https://www3.epa.gov/airquality/ctg_act/199309_voc_epa453_d-95-001_offset_lithography_draft.pdf">https://www3.epa.gov/airquality/ctg_act/199309_voc_epa453_d-95-001_offset_lithography_draft.pdf</a></p> <p>Alternative Control Techniques Document: Offset Lithographic Printing: November 8, 1993.  <a href="https://www3.epa.gov/airquality/ctg_act/199311_voc_epa453_r-94-054_offset_lithography_act.pdf">https://www3.epa.gov/airquality/ctg_act/199311_voc_epa453_r-94-054_offset_lithography_act.pdf</a></p>	<p><b>COMAR 26.11.19.11</b> Lithographic Printing</p> <p><b>COMAR 26.11.19.18</b> Control of Volatile Organic Compound Emissions from Screen Printing and Digital Imaging.</p>	<p>SIP# 91-02 Adopted 3/9/1991 Approved 11/29/1994</p> <p>SIP# 91-03 Adopted 7/24/1991 Approved 9/7/1994</p> <p>SIP# 95-11 Adopted 5/5/1995 Approved 9/2/1997</p> <p>SIP # 11-09 Adopted 10/04/2011 Approved 07/23/2011</p> <p>SIP# 95-05 Adopted 10/14/1994 and 5/16/1995 Approved 10/15/1997</p> <p>SIP# 99-05 Adopted 8/4/1998 Approved 6/17/1999</p> <p>SIP# 02-04 Adopted 5/9/2002 Approved 1/15/2003</p>	Applies to offset lithographic printing, including heatset and non-heatset web, non-heatset sheet-fed, and newspaper facilities. A 90 percent reduction of VOC emissions (by weight) from the press dryer exhaust vent of heatset printing operations, limits the alcohol content in fountain solutions, and establishes standards for cleaning printing equipment.



CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Service Stations Stage I	Design Criteria for Stage I Vapor Control Systems - Gasoline Service Stations, November 1975 (Group I). <a href="https://www3.epa.gov/airquality/ctg_act/197511_voc_epa450_r-75-102_stage-1_service_stations.pdf">https://www3.epa.gov/airquality/ctg_act/197511_voc_epa450_r-75-102_stage-1_service_stations.pdf</a>	<b>COMAR 26.11.13.04 C</b> Loading Operations – Small Storage Tanks	SIP# 93-05 Adopted 3/26/1993 Approved 1/6/1995  SIP # 98-06 Adopted 7/18/1997 Approved 9/2/1998	Applies to storage tanks with capacity greater than 2000 gallons but less than 40,000 gallons and requires Stage I vapor recovery.  Applies to gasoline storage tank capacity affected by Stage I vapor recovery from the previous 250 gallon capacity to greater than 2,000 gallons.
Solvent Cleaning	Control of Volatile Organic Emissions from Solvent Metal Cleaning, EPA-450/2-77-022, Nov. 1977 (Group I). <a href="https://www3.epa.gov/airquality/ctg_act/197711_voc_epa450_2-77-022_solvent_metal_cleaning.pdf">https://www3.epa.gov/airquality/ctg_act/197711_voc_epa450_2-77-022_solvent_metal_cleaning.pdf</a>  Control Techniques Guidelines for Industrial Cleaning Solvents (PDF pp, 290, 7.6MB) EPA-453/R-06-001-2006/09. <a href="https://www3.epa.gov/airquality/ctg_act/200609_voc_epa453_r-06-001_ind_cleaning_solvents.pdf">https://www3.epa.gov/airquality/ctg_act/200609_voc_epa453_r-06-001_ind_cleaning_solvents.pdf</a>	<b>COMAR 26.11.19.09-1</b> Industrial Solvent Cleaning Other Than Covered in 26.11.19.09  <b>COMAR 26.11.19.02</b> Applicability, Determining Compliance, Reporting, and General Requirements  <b>COMAR 26.11.19.09</b> Control of VOC Emissions from Cold and Vapor Degreasing	SIP# 83-03 Adopted 6/24/1983 Approved 9/10/1984  SIP# 92-01 Adopted 1/20/1992 Approved 9/7/1994  SIP# 95-09 Adopted 5/12/1995 Approved 8/4/1997  SIP# 10-03 Adopted 3/21/2010 Approved 2/22/2011	Applies to emissions from cold and vapor degreasing, establishing coating VOC content limits specific to operations.  COMAR 26.11.19.02 has the following provision that when this chapter establishes an emission standard for a specific installation which differs from the general emission standard in COMAR 26.11.06.01—09, COMAR 26.11.19.02 takes precedence.

CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Synthetic Organic Chemical	<p>Control of Volatile Organic Compound Emissions from Air Oxidation Processes in Synthetic Organic Chemical Manufacturing Industry, EPA-450/3-84-015, December 1984 (Group III).  <a href="https://www3.epa.gov/airquality/ctg_act/198412_voc_epa450_3-84-015_air_oxidation_processes.pdf">https://www3.epa.gov/airquality/ctg_act/198412_voc_epa450_3-84-015_air_oxidation_processes.pdf</a></p> <p>Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation and Reactor Processes CTG (EPA 450/4-91-031, August 1993).  <a href="https://www3.epa.gov/airquality/ctg_act/199308_voc_epa450_4-91-031_reactor_distillation_socmi.pdf">https://www3.epa.gov/airquality/ctg_act/199308_voc_epa450_4-91-031_reactor_distillation_socmi.pdf</a></p> <p>Control of Volatile Organic Compound Fugitive Emissions from Synthetic Organic Chemical Polymer and Resin Manufacturing Equipment, EPA-450/3-83-006, March 1984 (Group III).  <a href="https://www3.epa.gov/airquality/ctg_act/198403_voc_epa450_3-83-006_leaks_polymer_equipment.pdf">https://www3.epa.gov/airquality/ctg_act/198403_voc_epa450_3-83-006_leaks_polymer_equipment.pdf</a></p>	<p><b>COMAR 26.11.19.30</b>  Control of Volatile Organic Compound Emissions from Chemical Production and Polytetrafluoroethylene Installations</p>	<p>SIP# 01-03  Adopted 12/6/2000  Approved 7/20/2001</p> <p>SIP# 01-15  Adopted 11/6/2001  Approved 6/3/2003</p> <p>SIP# 02-07  Adopted 10/3/2002  Approved 6/3/2003</p> <p>SIP# 08-02  Adopted 3/17/2008  Approved 10/18/2011</p>	<p>Section D of this regulation applies to a person who owns or operates an organic chemical production installation or an inorganic chemical production installation at a premises that, on any day, has actual uncontrolled VOC emissions of 20 pounds or more per day.</p>

CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Storage of Petroleum Liquids in Tanks	<p>Control of Volatile Organic Emissions from Storage of Petroleum Liquids in Fixed Roof Tanks, EPA-450/2-77-036, December 1977 (Group I).  <a href="https://www3.epa.gov/airquality/ctg_act/197712_voc_epa450_2-77-036_fixed_roof_tanks.pdf">https://www3.epa.gov/airquality/ctg_act/197712_voc_epa450_2-77-036_fixed_roof_tanks.pdf</a></p> <p>Control of Volatile Organic Emissions from Petroleum Liquid Storage in External Floating Roof Tanks, EPA-450/2-78-047, December 1978 (Group II).  <a href="https://www3.epa.gov/airquality/ctg_act/197812_voc_epa450_2-78-047_petrol_roof_tanks.pdf">https://www3.epa.gov/airquality/ctg_act/197812_voc_epa450_2-78-047_petrol_roof_tanks.pdf</a></p>	<p><b>COMAR <a href="#">26.11.13.03A</a> &amp; C</b>  Large Storage Tanks –  Closed Top Tanks</p> <p><b>COMAR <a href="#">26.11.13.03 B</a></b>  Large Storage Tanks –  Open Top tanks</p>	<p>SIP# 81-01  Adopted 4/8/1981  Approved 5/11/1982</p> <p>SIP# 91-02  Adopted 3/9/1991  Approved 11/29/1994</p> <p>SIP# 83-03  Adopted 6/24/1983  Approved 9/10/1984</p>	<p>Applies to gasoline liquid storage tanks with fixed roofs and with capacity of 40,000 gallons or greater.</p> <p>Covers sealing standards for a covered storage tank, openings, connection between roof edge and tank wall, and vents.</p>

CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Tank Trucks, Petroleum Handling and Loading	<p>Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals, EPA-450/2-77-026, December 1977 (Group I).  <a href="https://www3.epa.gov/airquality/ctg_act/197710_voc_epa450_2-77-026_tank_truck_terminals.pdf">https://www3.epa.gov/airquality/ctg_act/197710_voc_epa450_2-77-026_tank_truck_terminals.pdf</a></p> <p>Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems, EPA-450/2-78-051, December 1978 ( Group II).  <a href="https://www3.epa.gov/airquality/ctg_act/197812_voc_epa450_2-78-051_tank_trucks_vcs.pdf">https://www3.epa.gov/airquality/ctg_act/197812_voc_epa450_2-78-051_tank_trucks_vcs.pdf</a></p>	<p><b>COMAR</b>  <a href="#">26.11.13.01.02, .04D, .05</a>  Control of Gasoline and VOC Storage and Handling, Loading Operations</p> <p><b>COMAR</b>  <a href="#">26.11.13.04A &amp; E</a></p>	<p>SIP# 81-01  Adopted 4/8/1981  Approved 5/11/1982  SIP# 92-01  Adopted 3/9/1991  Approved 1/6/1995</p> <p>SIP# 93-02  Adopted 1/18/1993  Approved 9/7/1994</p> <p>SIP# 93-05  Adopted 3/26/1993  Approved 1/6/1995</p> <p>SIP # 14-05  Adopted 7/21/2014  Approved 11/19/2014</p>	<p>Applies to all unloading, loading, and storage operations at bulk gasoline plants. Requires the use of vapor balance, and sets standards for equipment and work practices.</p> <p>MDE alternative transfer procedure.</p>

CTG Category	CTG Document	Maryland Regulation	SIP # Date Adopted Date of EPA Approval	Comments
Flat Wood Paneling Coating	<p>Control of Volatile Organic Emissions from Existing Stationary Sources, Volume VII: Factory Surface Coating of Flat Wood Paneling, EPA-450/2-78-032 June 1978 (Group I).  <a href="https://www3.epa.gov/airquality/ctg_act/197806_voc_epa450_2-78-032_surface_coatings(v7).pdf">https://www3.epa.gov/airquality/ctg_act/197806_voc_epa450_2-78-032_surface_coatings(v7).pdf</a></p> <p>Control Techniques Guidelines for Flat Wood Paneling Coatings (PDF 27 pp, 212KB) EPA-453/R-06-004-2006/09.  <a href="https://www3.epa.gov/airquality/ctg_act/200609_voc_epa453_r-06-004_wood_panel_coatings.pdf">https://www3.epa.gov/airquality/ctg_act/200609_voc_epa453_r-06-004_wood_panel_coatings.pdf</a></p>	<p><b>COMAR 26.11.19.33</b>  Flat Wood Paneling Coating</p>	<p>SIP# 10-05  Adopted 3/31/2010  Approved 1/26/2011</p>	

### 2.2.1 Control Technique Guideline (CTG) Requirements Not Adopted in Maryland

These CTGs have not been adopted in Maryland because there are no sources of this type:

- Control of Refinery Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds, EPA-450/2-77-025, October 1977 (Group I).
- Control of Volatile Organic Compound Emissions from Air Oxidation Processes in Synthetic Organic Chemical Manufacturing Industry, EPA-450/3-84-015, December 1984 (Group III).
- Control of Volatile Organic Compound Emissions from Manufacture of High-Density Polyethylene, Polypropylene, and Polystyrene Resins, EPA-450/3-83-008, November 1983 (Group III).
- Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations in Synthetic Organic Chemical Manufacturing Industry, EPA-450/4-91-031, August 1993.
- Control of Volatile Organic Compound Equipment Leaks from Natural Gas/Gasoline Processing Plants, EPA-450/2-83-007, December 1983 (Group III).
- Control of Volatile Organic Compound Leaks from Petroleum Refinery Equipment, EPA-450/2-78-036, June 1978 (Group II).
- Control of Volatile Organic Compound Leaks from Synthetic Organic Chemical Polymer and Resin Manufacturing Equipment, EPA-450/3-83-006, March 1984 (Group III).
- Control of Volatile Organic Emissions from Existing Stationary Sources, Volume IV: Surface Coating of Insulation of Magnet Wire, EPA-450/2-77-033, December 1977 (Group I).
- Control of Volatile Organic Emissions from Manufacture of Pneumatic Rubber Tires, EPA-450/2-78-030, December 1978. (Group II).
- Control Techniques Guidelines for Automobile and Light-Duty Truck Assembly Coatings, EPA 453/R-08-006-2008/09, September 2008, and Control of Volatile Organic Emissions from Existing Stationary Sources, Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks, EPA-450/2-77-008, May 1977. (Group I). COMAR 26.11.19.03. 03 Automotive and Light-Duty Truck Coating covers this category but all affected sources in Maryland closed in 2005. The GM Plant permanently shut down September 2005. A Negative Declaration hearing was announced in the MD Register on 12/1/2014. MD held a hearing on 12/7/2014. No sources came forward.
- Control of Volatile Organic Emissions from Existing Stationary Sources, Volume IV: Surface Coating for Insulation of Magnet Wire, EPA-450/2-77-033, December 1977 (Group I).
- Control of Volatile Organic Compound Equipment Leaks from Natural Gas/Gasoline Processing Plants, EPA-450/2-83-007, December 1983 (Group III).
- Control of Volatile Organic Compound Emissions from Manufacture of High-Density Polyethylene, Polypropylene, and Polystyrene Resins, EPA-450/3-83-008, November 1983 (Group III).
- Control of Volatile Organic Compound Fugitive Emissions from Synthetic Organic Chemical Polymer and Resin Manufacturing Equipment, EPA-450/3-83-006, March 1984 (Group III).

- Control of Refinery Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds, EPA-450/2-77-025, October 1977 (Group I).
- Control of Volatile Organic Emissions from Manufacture of Pneumatic Rubber Tires, EPA-450/2-78-030, December 1978 (Group II).

### **2.3 OTHER AREA AND NONROAD MOBILE SOURCES CATEGORIES**

EPA defines an “area source” as any stationary source that is not a major source. The Maryland Department of the Environment has considered controls on other sources of VOCs not covered by a CTG and adopted rules whenever deemed to be reasonably available controls. The Maryland Department of the Environment has examined information which became available in Alternative Control Techniques Documents and adopted rules or amended previously adopted rules for CTG categories whenever deemed to be reasonably available controls. In some cases such as COMAR 26.11.19.23 Control of VOC Emissions from Vehicle Refinishing, these rules apply to more than just the end user by also regulating the VOC content of products that are sold or offered for sale in the State of Maryland. In other cases, the rules regulate the VOC content of products that are sold or offered for sale to retail customers, or for use by the general public or small businesses; these include source categories like commercial and consumer products, and architectural surface coatings (paint). Maryland considers this RACT for these non major sources as well as RACT for other area and onroad mobile source categories, which are not subject to a CTG. These sources are mostly area sources but also cover major sources included in Table 2.2 Other Area Source RACT.

**Table 2.2 Other Area Source RACT**

RACT “Area Source” and “Nonroad Mobile Source” Categories	ACT Document	Maryland Regulation	MDE Date Adopted Date of EPA Approval
Consumer Products Phase I Phase II Phase III		<b>COMAR 26.11.32</b> Control of Emission of Volatile Organic Compounds from Consumer Products	MDE Date Adopted 06/18/2007 Date of EPA Approval 12/10/2007
Architectural Coatings	Reduction of Volatile Organic Compound Emissions from the Application of Traffic Markings, EPA-450/3-88-007. <a href="https://www3.epa.gov/airquality/ctg_act/198808_voc_epa450_3-88-007_traffic_markings.pdf">https://www3.epa.gov/airquality/ctg_act/198808_voc_epa450_3-88-007_traffic_markings.pdf</a>	<b>COMAR 26.11.33</b> Architectural Coatings	MDE Date Adopted 03/29/2004 Date of EPA Approval 05/12/2005
Portable Fuel Containers Phase I Phase II		<b>COMAR 26.11.13.07</b> Control of Gasoline and VOC Emissions from Portable Fuel Containers	MDE Date Adopted 06/18/2007 Date of EPA Approval 07/17/2008
Vehicle Refinishing Motor Vehicle and Mobile Equipment Line Coating Operations	Reduction of Volatile Organic Compound Emissions from Automobile Refinishing, EPA-450/3-88-009, Oct. 1988. <a href="https://www3.epa.gov/airquality/ctg_act/198810_voc_epa450_3-88-009_automobile_refinishing.pdf">https://www3.epa.gov/airquality/ctg_act/198810_voc_epa450_3-88-009_automobile_refinishing.pdf</a>  Alternative Control Techniques Document: Automobile Refinishing, EPA-453/R-94-031, April 1994. <a href="https://www3.epa.gov/airquality/ctg_act/199404_voc_epa453_r-94-031_autobody_refinishing.pdf">https://www3.epa.gov/airquality/ctg_act/199404_voc_epa453_r-94-031_autobody_refinishing.pdf</a>	<b>COMAR 26.11.19.23</b> Control of VOC Emissions from Vehicle Refinishing	MDE Date Adopted 04/16/2012 Date of EPA Approval 09/26/2012 Entire Regulation Revised SIP effective date 10/26/2012



RACT “Area Source” and “Nonroad Mobile Source” Categories	ACT Document	Maryland Regulation	MDE Date Adopted Date of EPA Approval
Solvent Degreasing Cold Cleaning Degreasing	<p>Alternative Control Techniques Document: Halogenated Solvent Cleaners, EPA-450/3-89-030, August 1989.  <a href="https://www3.epa.gov/airquality/ctg_act/198908_voc_epa450_3-89-030_halogenated_solvent_cleaners.pdf">https://www3.epa.gov/airquality/ctg_act/198908_voc_epa450_3-89-030_halogenated_solvent_cleaners.pdf</a></p> <p>Alternative Control Techniques Documents: Industrial Cleaning Solvents, EPA-453/R-94-015, February 1994.  <a href="https://www3.epa.gov/airquality/ctg_act/199402_voc_epa453_r-94-015_indust_cleaning_solvent.pdf">https://www3.epa.gov/airquality/ctg_act/199402_voc_epa453_r-94-015_indust_cleaning_solvent.pdf</a></p>	<p><b>COMAR 26.11.19.09</b> Control of VOC Emissions from Cold and Vapor Degreasing</p> <p><b>COMAR 26.11.19.09-1</b> Control of VOC Emissions from Industrial Solvent Cleaning Operations Other Than Cold and Vapor Degreasing</p>	<p>MDE Date Approved 06/05/1995 Date of EPA Approval 08/04/1994</p> <p>MDE Date Approved 04/19/2010 Date of EPA Approval 02/22/2011</p>
Service Stations Stage II	<p>CAA Section 182(b)(3)  <a href="https://www.gpo.gov/fdsys/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapI-partD-subpart2-sec7511b.htm">https://www.gpo.gov/fdsys/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapI-partD-subpart2-sec7511b.htm</a></p> <p>Approval and Promulgation of Air Quality Implementation Plans: Maryland; Reasonably Available Control Technology for 1997 9-Hour Ozone National Ambient Air Quality Standard, EPA-R03-OAR-2012-0208-0002  <a href="http://www.regulations.gov/#!documentDetail;D=EPA-R03-OAR-2012-0208-0005">http://www.regulations.gov/#!documentDetail;D=EPA-R03-OAR-2012-0208-0005</a></p>	<p><b>COMAR 26.11.24</b> Stage II Vapor Recovery at Gasoline Dispensing Facilities</p>	<p>SIP# 93-01 Adopted 1/18/1993 Approved 6/9/1994</p> <p>SIP# 95-18 Adopted 4/7/1995 Approved 8/4/1997</p> <p>SIP# 02-03 Adopted 3/14/2002 Approved 5/7/2003</p>

RACT “Area Source” and “Nonroad Mobile Source” Categories	ACT Document	Maryland Regulation	MDE Date Adopted Date of EPA Approval
Marine Vessel Loading	<p>Federal Standards for Marine Tank Vessel Loading Operations and National Emission Standards for Hazardous Air Pollutants for Marine Tank Vessel Loading Operations-<a href="#">Final Rule</a>, 60 FR 48388, 9/19/1995 (40 CFR Parts 9 and 63)</p> <p>Maryland developed RACT as the EPA MACT threshold was not applicable.</p>	COMAR <a href="#">26.11.13.08</a> Control of Gasoline and VOC Storage and Handling	SIP# 07-12 Adopted 07/18/2008 Approved 10/08/2007

## 2.4 MAJOR NON-CTG SOURCES OF AND VOC

According to the Implementation Rule, the state is required to conduct a RACT analysis for each major stationary source of VOC and for each major stationary source of NO<sub>x</sub>.<sup>8</sup> “Major stationary source” is defined in CAA Section 302, as modified by Sections 182(b), (c), (d) or (e) of the CAA, as applicable to the classification of the nonattainment areas in which a stationary source is located. Additionally, Maryland is in the OTR and subject to CAA Section 184.

Maryland has retained its major source levels at 25 tons per year for VOC and NO<sub>x</sub> sources in the Baltimore, Washington, DC, and Philadelphia (Cecil County, Maryland) nonattainment areas. These major source thresholds are consistent with the areas that were classified as “severe” in the state although these areas are now classified as “moderate” or “marginal.”

Major source levels remain at 50 tons per year for VOC and 100 tons per year for NO<sub>x</sub> in all remaining Maryland counties which are part of the Ozone transport Region (see Table 1.1).

Due to EPA’s anti-backsliding requirements, and Maryland’s desire to come into attainment with the 8-hour ozone NAAQS as expeditiously as practical, the more stringent 25 and 50 tpy thresholds will not be relaxed for applicability and other requirements in existing rules even though the non-attainment area classification has changed.

In addition to RACT, individual sources may also be subject to more stringent technology control measures such as lowest achievable emissions rate (LAER), best available control technology (BACT) and maximum achievable control technology (MACT). LAER, applicable to new and modified major sources located in nonattainment areas, is the lowest achievable emission rate of the nonattainment pollutant that can be achieved by the source without respect to cost. BACT, or best available control technology, is applicable to new and modified sources located in attainment areas. BACT may be less stringent than LAER because consideration is given to energy, environmental and economic impacts, as well as other costs when evaluating the lowest emission rate. MACT, or maximum achievable control technology, is generally applicable to major sources of hazardous air pollutants. MACT is the control achieved by the best performing twelve percent of sources in a source group. For sources emitting volatile organic hazardous air pollutants subject to MACT, EPA has historically allowed states to rely on MACT standards for the purpose of showing that a source has met VOC RACT. BACT and LAER determinations are made prior to construction as part of the new source review (NSR) permitting process. Under the federal National Emissions Standards for Hazardous Air Pollutants, the requirement to implement MACT-based controls applies directly to owners of major sources of hazardous air pollutants.

Each of these control requirements, LAER, BACT and MACT, at the time of review, would necessarily be more stringent than RACT. As these controls are generally more stringent, it is unlikely that any source that has recently undergone one of these control technology reviews would not meet RACT. Furthermore, to the extent that a source has undergone one of these reviews, it is generally unlikely that the marginal reductions achievable through further control

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<sup>8</sup> RACT for NO<sub>x</sub> will be the subject of a separate SIP revision(s).

measures will be cost effective, unless existing control equipment may be optimized to meet a lower emission limit that has become RACT since the installation of the control equipment. Otherwise, only in cases where the technology review is significantly outdated and the source has sufficient actual emissions and useful life remaining, is it plausible that a reevaluation of RACT, the control measure with the least associated burden, will be warranted. Note, however, that such a source might still warrant controls as part of an attainment plan or through future, necessarily more stringent, BACT, LAER, or MACT determinations as may become applicable.

Many sources that are permitted as “Synthetic Minor” are not included on the major source list because the potential VOC emissions of synthetic minor sources are limited below 25 tons per year within Maryland’s ozone nonattainment areas and 50 tons per year in Greater Maryland.

Table 2.3 lists the major sources of VOC located in Maryland. The list was obtained by reviewing permit applications and the emission certification reports supplied to MDE by the sources themselves.

**Table 2.3 2011 Major Source List**

<b>Facility Name County FIPS Premise ID</b>	<b>2011 VOC (tpy)</b>	<b>Main Source of VOC Emissions</b>	<b>Applicable COMAR</b>	<b>RACT Technology and Limit</b>
<b>Luke Paper Company Pulp and Paper Mill 21001 001-0011</b>	335.39	Recovery Boiler	26.11.14.06(B)(5)	Black Liquor Oxidation Unit and a Dry Bottom Precipitator (with a salt cake mix tank)
		Miscellaneous	26.11.14.06(C)	Screen Room Reject Drainer
		Wash Water (from brown stock washers)	26.11.14.06(B)(4)	Condensate Stripper
			26.11.14.06(B)(3)	Condensate Stream Stripper (or other control system)
		Non-Condensable gases (NCGs)	26.11.14.06(B)(2)	Condensate Stream Stripper
		Digester Blow Tank and Knotters	26.11.14.06(B)	Condensate Stream Stripper
		Off Gases		Limits amount of VOC to 2.9 lbs/gal of coating applied (minus water)
		Paper Machines and Coater Building	26.11.19.07(C)	-VOC degreasing material may not exceed a vapor pressure of 1 mm Hg at 20 degree Celsius
		Degreasing Operations	26.11.19.09(D)	-Maintain Good Operation Practices -Halogenated VOC for cold degreasing is prohibited

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
Naval Support Facilities Fuel Burning Indian Head 24017 017-0040	25.38	Gasoline Storage	26.11.13.04	Stage I Vapor Recovery
		Vapor Degreasing	26.11.19.09(E)	Condenser or an air pollution control device
		Metal Surface Coating Operation	26.11.19.13	Emissions standards specific coating types (high performance, clear coating, and standard) to lbs/gal of such coating applied (minus water)
			26.11.19.13-1	Store all waste materials, maintains lids, use enclosed containers or VOC recycling equipment
		General Operating Condition	26.11.19.02(I) 26.11.19.16	Monitoring and recordkeeping
		Explosives and Propellant Manufacturing Equipment	26.11.19.25(C)	Perform preventative maintenance on emissions control devices, vacuum condenser, carbon activated filters, and thermal oxidizer
Diageo Global Supply Relay Plant (Diageo North America) Distilled Spirits/Liquor- Fugitive Emissions 24005 005-0146	331.01	Distilled Spirits/Liquor- Fugitive Emissions	26.11.19.29C(1)(a) 26.11.19.29C(1)(b) 26.11.19.29C(1)(c) 26.11.19.29C(2) 26.11.19.29D	Barrel Emptying Product Filtering Bottle Filling Empty Barrel Storage Develop, maintain, and implement a good operating practices manual
		Leak Detection and Repair	26.11.19.16	Monthly inspections

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
<b>Schmidt Baking Company</b> <b>Fullerton Plant</b> <b>Bakery Oven</b> <b>24005</b> <b>005-0236</b>	82.80	Natural Gas Oven	26.11.19.21D	Catalytic Oxidizer Operation within the indicator ranges
<b>Games Lithographing</b> <b>Company, Inc.</b> <b>Graphic Arts – Commercial</b> <b>Gravure Printing</b> <b>24005</b> <b>005-1149</b>	48.42	Rotogravure Press Flexographic Press Web fed Lithographic Press	26.11.19.10(C) 26.11.19.10(C) 26.11.19.11(B) and (D)	Catalytic Oxidizer Use water based inks Use low solvent materials with total VOC emissions less than 100 lb/day
<b>Kraft Foods Group Inc.</b> <b>Bakery Oven</b> <b>24011</b> <b>011-0006</b>	70.24	Bakery Oven	26.11.19.21(D)(1) and (2)	If the average production tonnage and Yt value of the finished bread from an oven in any 12-month period exceeds the limits (in permit), Kraft must install and operate a control device, discharge the VOC directly into the control device and achieve an 80% or more reduction in VOC emissions.  (Not currently subject to the general requirements of 26.11.19.21(D) because the production tonnage of bread in the largest (highest VOC emission) oven at the facility is less than 28,000 tpy, and the Yt value is less than 5.0.

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
<b>BP Products North America, Inc., Curtis Bay Terminal Bulk Petroleum Storage 24003 003-0309</b>	40.93	Bulk Petroleum Storage	26.11.13.03A(1)(a)	Requires that each tank's gauging and sampling devices be gas tight except when in use
			26.11.13.03A(1)(b)	Well maintained internal floating roof equipped with a primary and secondary seal
			26.11.13.03A(2)(a)	No visible holes, tears, or other openings in the seal or seal fabric
			26.11.13.03A(2)(b)	Seal shall be intact and uniformly in place around the circumference of the floating roof and the tank wall
			26.11.06.06B(1)(a)	Limit emission of VOC to not more than 200 lbs per day from installation constructed by May 12, 1972
			26.11.06.06B(1)(b)	Limit emission of VOC to not more than 20 lbs per day from installations constructed after May 12, 1972
			26.11.13.04A(1)(a)(i)	Emission from the vapor collection and control system shall be limited to 0.083 lbs of total organic compounds per 1,000 gallons of gasoline or VOC loaded
			26.11.13.05A and B	-Shall ensure that loadings of gasoline or VOC into tank trucks are limited to vapor-tight gasoline tank trucks by obtaining vapor tightness documentation for each gasoline or VOC tank truck that is to be loaded at the facility. - Shall verify that each gasoline tank truck loaded at the facility is a tank truck that has



Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
			26.11.13.04A(1)(b)(i)	obtained the appropriate vapor tightness documentation within two (2) weeks after the tank truck is loaded. -Shall ensure that a nonvapor-tight tank truck will not be reloaded at the facility until vapor tightness documentation for that tank is obtained
			26.11.13.04A(1)(b)(ii)	The exhaust gases from the loading rack shall vent through the VRU or the VCU prior to discharging the atmosphere
			26.11.13.04A(1)(c)	During loading, the gasoline or VOC tank truck pressure does not exceed 18 inches of water, and vacuum does not exceed 6 inches of water  No gasoline or VOC leaks in the system when tested by the method referenced in COMAR 26.11.13.04A(3)(a) during loading or unloading operations  Maintain a top submerged or bottom loading system on the terminal's loading racks

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
<b>US Coast Guard Yard (USCG Yard) 24003 003-0316</b>	36.29	Engine Painting Surface Coating Operations          VOC Equipment Leaks	26.11.19.27 NESHAP-Shipbuilding and Ship Repair          26.11.19.16(C) and (D)	Applies to marine vessel coating operations at a premises where the total potential to emit VOC equals or exceeds 25 tons per year or actual emission of 20 lbs per day from all marine vessel coating operations at the premises.      The COMAR VOC coating standards reflect the NESHAP Volatile Organic HAP (VOHAP) Limits for Marine Coatings   Control of VOC Leaks
<b>Terumo Cardiovascular Systems Corporation</b>	22.43	Medical Device Manufacturing	26.11.19.31   26.11.19.02 26.11.19.16	Requires impermeable covers on dip pots for manual bonding operations when not in use   Regulation inspections Minimize leaks
<b>GenOn – Chalk Point Generating Station 24033 033-0014</b>	64.65	Fuel Burning	Synthetic Minor Limitation	Prevents the units from being subject to major new source review. The 27.5 ton limitation was calculated based on the vendor guaranteed VOC emission rate for the 6000 hour annual operational limitation
<b>Transcontinental Gas Pipe Line – Ellicott City 24027 027-0223</b>	227.89	Natural Gas Transmission	26.11.06.06B	Limits emissions of VOC to not more than 200 pounds per day

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
<b>Brown Station Road Sanitary Landfill 24033 033-2084</b>	2011 – 58.10  2012 – 2.72  2013 – 9.384  2014 – 10.96	<p>Area A: 148-acre area of closed and capped landfill, which incorporates a LFG collection system</p> <p>Area B: 140-acre area of landfill containing eleven planned cells</p> <p>Flare Station: Two enclosed flares (F1 and F2) each rated at 45 million Btu per hour</p> <p>Flare Station: F3: One (1) enclosed flare rated at 90 million Btu per hour</p> <p>4.2 MW generating facility consisting of four engine generators that use LFG as primary fuel [PSC Case No. 8838, dated April 22, 2005]</p>	Federal Regulations	<p>40 CFR § 60.755</p> <p>Because of the adoption of COMAR 11.26.19.20 MD no longer has any landfills that are over the 25 tpy of VOC. Also this is due to regulations approved in a separate 111d submittal. Additionally, Brown Station does have a Title V permit but it is no longer a major source. The emissions reports from the last several years reveal Brown Station to be well below the 25 tpy threshold.</p> <p>The landfill is equipped with a landfill gas collection system, flares and an on-site landfill gas power plant.</p> <p>Landfill Gas Collection System with a reported collection efficiency of 84.1% in 2014. The system reported a collection efficiency of 58.9% in 2011 which accounts for the increase in fugitive emissions from the site.</p> <p>VOC destruction efficiency of engines = 97.2%</p>

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
<b>H &amp; S Bakery</b> <b>24510</b> <b>510-0301</b>	82.20	Bakery Oven	26.11.19.21  26.11.19.21C(2) & D(1)  26.11.19.21D(2)    26.11.19.21C(5)	Exceeds the average annual production tonnage of finished bread, rolls, or other yeast-raised products for the corresponding Yt value listed below, then thereafter the operator shall be subject to COMAR 26.11.19.21D(2) <ul style="list-style-type: none"> <li>• 10,000 tons with a Yt value of greater than 11.0;</li> <li>• 15,000 tons with a Yt value between 8.1 and 11.0;</li> <li>• 22,500 tons with a Yt value less between 5 and 8.0;</li> <li>• 28,000 tons with a Yt value less than 5.</li> </ul> Any commercial bakery oven constructed on or after January 1, 1994 that satisfies the conditions in COMAR 26.11.19.21D(1) the operator shall comply with COMAR 26.11.19.21D(2)
<b>Sunoco Partners Marketing &amp; Terminals, L.P.</b> <b>(Baltimore Terminal)</b> <b>24510</b> <b>510-0703</b>	41.20	Bulk Petroleum Storage	26.11.13.03A(1)(a) and (b)      26.11.13.03A(2)	-Each tank's gauging and sampling devices be gas tight except when in use -Each tank be equipped with one of the following properly installed, operating, and well maintained emission control systems (internal floating roof, pressure tank system, or a vapor control system)   -There shall be no visible holes, tears, or other openings in the seal or seal fabric -Each seal shall be intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall.

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
<b>Petroleum Fuel and Terminal Company 24510 510-1923</b>	46.22	Bulk Petroleum Storage (VOC emitted during transport tanker truck loading) - Loading Rack	26.11.13.04A(1)(a)	Adsorption/Absorption Recovery Unit (VRU)
			26.11.13.03A(1)(a)	Gauging and sampling devices be gas tight except when in use
			26.11.13.03A(1)(b)	Each of the storage tanks shall be properly operated with a well maintained internal floating roof equipped with a primary and secondary seal
			26.11.13.03A(2)	
			26.11.13.03A(2)(a)	-There shall be no visible holes, tears, or other openings in the seal or seal fabric
			26.11.13.03A(2)(b)	- Each seal shall be intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall
			26.11.13.03A(2)(c)	- Accumulated area of the gaps between the secondary seal and the tank wall and between the seal and other obstructions inside the tank (that is, ladder, roof supports)
			26.11.13.03	that are greater than 1/8 inch in width may not exceed 1.0 square inch per foot of tank diameter
			26.11.13.04A(1)(a)	Specific methods and procedures for demonstrating compliance with the roof and seal requirement for each tank
			26.11.13.04A(1)(a)(i)	The vapor collection and control system controlling emissions from the loading system shall collect the total organic

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
			26.11.13.05A	<p>compounds vapors displaced from tank trucks during product loading emissions to the atmosphere from the vapor collection system due to the loading of liquid product into tank trucks at the loading rack may not exceed 0.29 pounds of VOC per 1,000 gallons (35 milligrams of total organic compounds per liter) of gasoline or VOC loaded</p> <p>-Shall ensure that loadings of liquid product into gasoline tank trucks are limited to vapor-tight gasoline tank trucks by obtaining vapor tightness documentation for each gasoline tank truck that is to be loaded at the facility</p> <p>- Shall verify that each gasoline tank truck loaded at the facility is a tank truck that has obtained the appropriate vapor tightness documentation within two (2) weeks after the tank truck is loaded</p> <p>-Shall ensure that the non-vapor-tight tank truck will not be reloaded at the facility until vapor tightness documentation for that tank is obtained. Alternate procedures for limiting gasoline tank truck loadings may be approved by the Department</p>

[illegible]

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
			<p>26.11.06.06B(1)(a)</p> <p>26.11.06.06B(1)(b)</p> <p>26.11.13.04A(1)(a)</p> <p>26.11.13.05A</p> <p>26.11.13.04A(1)(b)</p>	<p>200 pounds per day from installations constructed before May 12, 1972 limit emissions of VOC to not more than 20 pounds per day from installations constructed after May 12, 1972</p> <p>-Loading rack shall be equipped with a vapor collection and control system designed to collect the total organic compound vapors displaced from cargo tanks during product loading.</p> <p>-The vapor collection and control system shall control at least 90 percent of all vapors and emissions may not exceed 10 milligrams of VOC per liter of gasoline or VOC loaded into gasoline cargo tanks at the loading rack</p> <p>To load gasoline only into vapor tight gasoline cargo tanks that have been certified as capable of sustaining a pressure change of not more than 3 inches of water in 5 minutes when pressurized to a gauge pressure of 18 inches of water, or evacuated to a gauge pressure of 6 inches of water</p> <p>- Use a terminal automation system to prevent gasoline or VOC cargo tanks that do not have valid cargo tank vapor tightness documentation from loading</p> <p>-The gauge pressure in the delivery tank does not exceed 4,500 pascals.</p> <p>- No pressure-vacuum vent in the vapor collection and control system begins to open at a system pressure less than 4,500 pascals.</p> <p>- The gasoline or VOC cargo tank pressure</p>



Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
			<p>26.11.13.04A(1)(c)</p> <p>26.11.13.03</p>	<p>does not exceed 18 inches of water, and vacuum does not exceed 6 inches of water.</p> <ul style="list-style-type: none"> <li>- There are no gasoline or VOC leaks in the system during loading or unloading operations.</li> <li>-Design and operate the vapor collection system to prevent any total organic compound vapors collected at one loading lane from passing through another loading lane to the atmosphere.</li> <li>-Shall assure that loadings of gasoline or VOC cargo tanks are made only into tanks equipped with vapor collection equipment that is compatible with the facility's vapor collection system.</li> <li>-Assure that the facility's and the cargo tank's vapor collection systems are connected during each loading of a gasoline or VOC cargo tank.</li> <li>-Shall equip the facility's loading rack with a top submerged or bottom loading system.</li> </ul> <p>Requires Inspections/Gas-tight gauging</p> <p>Equipment loading system with vapor collection and control</p> <p>Limits VOC to 0.29 lbs/kgal</p> <p>Large Closed Top Storage Tanks</p> <p>A person may not place or store gasoline or</p>

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
				<p>VOC having a TVP between 1.5 psia (10.3 kilonewton /square meter) and 11 psia (75.6 kilonewton /square meter), inclusive, in any closed top tank with a capacity of 40,000 gallons (151,400 liters) or greater unless the:</p> <p>(a) Tank's gauging and sampling devices are gas tight except when in use; and</p> <p>(b) Tank is equipped with one of the following properly installed, operating, and well maintained emission control systems:</p> <p>(i) An internal floating roof equipped with a primary and secondary seal;</p> <p>(ii) A pressure tank system that maintains a pressure at all times to prevent loss of vapors to the atmosphere; or</p> <p>(iii) A vapor control system capable of collecting the vapors from the tank and disposing of these vapors to prevent their emission to the atmosphere.</p>
<b>Xerxes Corporation</b> <b>24043</b> <b>043-0184</b>	110.14	Plastic Product Manufacturing	26.11.19.26	Maintaining records of all resins, gelcoat, and clean-up materials used and their VOC contents, Xerxes demonstrates that the resin materials they use meet the applicable styrene monomer content limits and that the clean-up materials do not contain any VOC so that Xerxes will minimize VOC emissions from reinforced plastic manufacturing operations

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
			26.11.19.26C     26.11.19.26C(2)  26.11.19.02I   26.11.19.16	Implement a VOC leak detection and repair program designed to minimize unintended emissions of VOC from process equipment and components, e.g., in-process vessels, storage tanks, pumps, compressors, valves, flanges and other pipeline fittings, pressure relief valves, process drains, and open-ended pipes  Flow chopper non-atomized resin application technique  Establish in writing and implement facility-wide “good operating practices” designed to minimize emissions of VOC  -Shall conduct monthly VOC leak inspections of all equipment and their components that may cause leaks of VOC -Tag any leaks discovered and repair the leak within the guidelines specified in COMAR 26.11.19.16 (logs of the leak inspections must be kept and made available to the Department upon request.)
<b>Motiva Enterprises, LLC – Baltimore Terminal Facility 24510 510-0728</b>	69.32	Petroleum Bulk Station & Terminals	26.11.13.03A(1)	-Shall not place or store gasoline or VOC having a true vapor pressure (TVP) between 1.5 psia and 11 psia, inclusive, in any closed top tank with a capacity of 40,000 gallons or greater unless: (a) the tank’s gauging and sampling devices are gas tight except when in use; and (b) the tank is equipped with one of the following properly installed, operating, and well maintained emissions control systems:

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
			26.11.13.03A(2)	<ul style="list-style-type: none"> <li>- An internal floating roof equipped with a primary and secondary seal</li> <li>- A pressure tank system that maintains a pressure at all times to prevent loss of vapors to the atmosphere</li> <li>- A vapor control system capable of collecting the vapors from the tank and disposing of these vapors to prevent their emission to the atmosphere</li> </ul>
			26.11.13.06	<ul style="list-style-type: none"> <li>-Maintain each seal such that there are no visible holes, tears, or other openings in the seal or seal fabric</li> <li>-Maintain each seal intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall</li> <li>-Maintain the seals such that the accumulated area of the gaps between the secondary seal and the tank wall and between the seal and other obstructions inside the tank (e.g., ladder, roof supports) that are greater than 1/8 inch in width do not exceed 1.0 square inch per foot of tank diameter</li> <li>-Required to maintain records of all continuous monitoring data generated by the facility's CEMS</li> <li>-To perform an annual visual inspection of each tank's gauging and sampling devices</li> </ul> <p>Equip each loading system with a vapor collection and control system designed to collect all vapors and control at least 90</p>

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
			<p>26.11.13.04A(1)(a)</p> <p>26.11.13.04A(1)(a)(i)</p> <p>26.11.13.04A(1)(b)</p> <p>26.11.13.04A(1)(c)</p> <p>26.11.13.05A</p>	<p>percent of all vapors from the loading racks</p> <p>Limit emissions from each vapor collection and control system associated with the facility's loading racks to not more than 0.29 pound of VOC per 1,000 gallons (35 milligrams per liter) of gasoline or VOC loaded</p> <p>-Gauge pressure in the delivery tank does not exceed 4,500 pascals</p> <p>-No pressure-vacuum vent in the vapor collection and control system begins to open at a system pressure less than 4,500 pascals</p> <p>-The gasoline or VOC tank truck pressure does not exceed 18 inches of water, and vacuum does not exceed 6 inches of water</p> <p>-There are no gasoline or VOC leaks in the system during loading or unloading operations</p> <p>Shall equip the terminal's loading racks with a top submerged or bottom loading system</p> <p>load gasoline or VOC only into tank trucks that are vapor-tight gasoline tank trucks</p> <p>determine the back pressure in the vapor collection system during the loading of gasoline tank trucks</p> <p>A person may not allow a gasoline tank truck to be filled or emptied unless the tank</p>



Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
			26.11.13.03  26.11.06.06	<p>inside the tank (that is, ladder, roof supports) that are greater than 1/8 inch in width may not exceed 1.0 square inch per foot of tank diameter</p> <p>-Specific inspection methods and procedures for demonstrating compliance with the applicable roof and seal requirements for each storage tank</p> <p>-Limit emissions of VOC to not more than 20 pounds per day unless VOC emissions are reduced by 85 percent or more overall</p> <p>- Keep monthly records to document amounts, types, and composition of all materials loaded into the tank</p>
<b>Center Point Terminal Baltimore LLC 24510 510-0730</b>	58.57	Bulk Petroleum Storage	26.11.13.03B(2)(a)  26.11.13. 03B(2)(b)  26.11.13. 03B(2)(c)  26.11.13. 03B(2)(d)  26.11.13.03B(3)(a)	<p>- External floating roof shall be equipped with a primary and secondary seal</p> <p>- Openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, shall be equipped with a projection below the liquid surface</p> <p>- Automatic bleeder vents shall be closed at all times except when the roof is resting on the roof supports</p> <p>- Roof drains shall be provided with a slotted membrane fabric or equivalent cover that encapsulates at least 90 percent of the area of the drain opening</p>

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
			26.11.13.03B(3)(b)	- Shall be no visible holes, tears, or other openings in the seal or seal fabric
			26.11.13.03B(3)(c)	- Each seal shall be intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall
			26.11.13.03B(4)(a)	-Accumulated area of the gaps between the secondary seal and the tank wall and between the seal and other obstructions inside the tank (that is, ladder, roof supports) that are greater than 1/8 inch in width may not exceed 1.0 square inch per foot of tank diameter
			26.11.13.03B(4)(b)	- Perform semiannual visual inspections of the primary and secondary seals
			26.11.13.03B(4)(c)	- Keep records of the results of all inspections of floating roofs and seals and a record of all repairs or replacement of the seals, including the date and the action taken
			26.11.13.04A(1)(a)	- Notify the Department of an intended tank inspection at least 15 days before the proposed inspection date
			26.11.13.04A(1)(a)(i)	-Vapor collection and control system controlling emissions from the loading system shall collect the total organic compounds vapors displaced from tank trucks during product loading and shall control at least 90 percent of all vapors from



Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
			<p>26.11.13.05A</p> <p>26.11.13.04A(1)(b)(i)</p> <p>26.11.13.04A(1)(b)(ii)</p> <p>26.11.13.04A(1)(c)</p>	<p>the loading racks</p> <p>-Emissions to the atmosphere from the vapor collection system due to the loading of liquid product into tank trucks at the loading rack may not exceed 0.29 pounds of VOC per 1,000 gallons (35 milligrams of total organic compounds per liter) of gasoline or VOC loaded</p> <p>- May not allow a gasoline or VOC tank truck to be filled or emptied unless the tank has been certified as capable of sustaining a pressure change of not more than three (3) inches of water in five (5) minutes when pressurized to a gauge pressure of 18 inches of water (4,479 kilonewtons/square meter), or evacuated to a gauge pressure of six (6) inches of water (1,493 kilonewtons/square meter), during a test, according to the procedure referenced in COMAR 26.11.13.05B(2)</p> <p>- During loading, the gasoline or VOC tank truck pressure does not exceed 18 inches of water and vacuum does not exceed 6 inches of water</p> <p>- There are no gasoline or VOC leaks in the system when tested by the method referenced in COMAR 26.11.13.04A(3)(a) during loading or unloading operations</p> <p>- Shall maintain a top submerged or bottom loading system on the terminal's loading</p>

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
				<p>racks</p> <p>Design and operate the vapor control system and the gasoline loading equipment so that there are no gasoline leaks in the system</p> <p>Bulk Gasoline Terminals must equip the loading rack with a top submerged or bottom loading system.</p>
<b>Hess Corporation – Baltimore Terminal 24510 510-0918</b>	50.06	Bulk Petroleum Storage	<p>26.11.13.03B(2)(a)-(d)</p> <p>26.11.13.03B(3)(a)-(c)</p>	<p>-External floating roof shall be equipped with a primary and secondary seal</p> <p>-Openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, shall be equipped with a projection below the liquid surface. The opening with projections shall also be equipped with a cover, seal, or lid, which shall be maintained in a closed position at all times, except when the device is in actual use</p> <p>-Automatic bleeder vents shall be closed at all times except when the roof is resting on the roof supports. Rim vents shall be set to the open position when the roof is being floated off the leg supports or at the manufacturer's recommended setting</p> <p>-Roof drains shall be provided with a slotted membrane fabric or equivalent cover that encapsulates at least 90 percent of the area of the drain opening</p> <p>- There shall be no visible holes, tears, or other openings in a seal or seal fabric</p> <p>-Each seal shall be intact and uniformly in</p>

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
			<p>26.11.13.03A(1)(a) and (b)</p> <p>26.11.13.04A(1)(a)</p> <p>26.11.13.04A(1)(a)(i)</p>	<p>place around the circumference of the floating roof between the floating roof and the tank wall</p> <p>-The accumulated area of the gaps between the secondary seal and the tank wall that are greater than 1/8 inch in width may not exceed 1.0 square inch per foot of tank diameter</p> <p>-Each tank's gauging and sampling devices shall be gas tight except when in use</p> <p>-Each tank shall be equipped with one of the following properly installed, operating, and well maintained emission control systems</p> <ul style="list-style-type: none"> <li>• An internal floating roof equipped with a primary and secondary seal</li> <li>• A pressure tank system that maintains a pressure at all times to prevent loss of vapors to the atmosphere</li> <li>• A vapor control system capable of collecting the vapors from the tank and disposing of the vapors to prevent their emission to the atmosphere.</li> </ul> <p>- To equip the loading system with a vapor collection and control system designed to collect all vapors and control at least 90 percent of all vapors from the loading racks</p> <p>-Limit emissions from the vapor collection and control system to 0.29 pounds of VOC per 1,000 gallons (35 milligrams per liter) of</p>

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
			26.11.13.04A(1)(a)(i)	gasoline or VOC loaded.
			26.11.13.05A	<p>- Limits emissions from the vapor collection and control system to 0.083 pounds of VOC per 1,000 gallons (10 milligrams per liter) of gasoline or VOC loaded</p> <p>-Loading of gasoline or VOC into tank trucks be limited to certified vapor tight tank trucks. The trucks shall be certified as capable of sustaining a pressure change of not more than 3 inches of water in 5 minutes when pressurized to a gauge pressure of 18 inches of water, or evacuated to a gauge pressure of 6 inches of water, during a test AND -Requires that loadings of gasoline or VOC be into only certified tank trucks capable of sustaining a pressure change of not more than 1 inch of water (equivalent to a fugitive emission rate of 9 milligrams per liter of gasoline or VOC loaded) in 5 minutes when pressurized to a gauge pressure of 18 inches of water, or evacuated to a gauge pressure of 6 inches of water, during a test</p>
			26.11.13.04A(1)(b)	-The gauge pressure in the delivery tank does not exceed 4,500 pascals
			26.11.13.04A(1)(c)	<p>-No pressure-vacuum vent in the vapor collection and control system begins to open at a system pressure less than 4,500 pascals</p> <p>-The gasoline or VOC tank truck pressure does not exceed 18 inches of water, and vacuum does not exceed 6 inches of water</p> <p>-There are no gasoline or VOC leaks in the</p>

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
			26.11.02.02H	<p>system during loading or unloading operations.</p> <p>- Equip the loading rack with a top submerged or bottom loading system</p> <p>- VOC emissions from all marine vessel loading operations at the premises shall be less than 25 tons per calendar year unless the owner obtains an approval from the Department</p> <p>- shall maintain records of total VOC emissions from all marine vessel loading operations at the premises in tons per month and tons per calendar year</p> <p>- Shall report the total emissions of VOC from all marine loading operations at the premises in the Annual Emissions Certification Report that is due April 1 of each calendar year</p>
<b>Petroleum Fuel and Terminal Company 24510 510-0677</b>	37.00	Bulk Petroleum Storage  Rack Loading, Pre-Control	26.11.13.04A(1)(a)  26.11.13.03A(1)(a)  26.11.13.03A(1)(b)  26.11.13.03A(2)	<p>- John Zink Carbon Adsorption/Absorption Recovery Unit (VRU)</p> <p>- Requires that the tank's gauging and sampling devices be gas tight except when in use</p> <p>- Each of the storage tanks shall be properly operated with a well maintained internal floating roof equipped with a primary and secondary seal</p>

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
			<p>26.11.13.03A(1)(a) and (b)</p> <p>26.11.13.03A(2)</p> <p>26.11.13.03A(2)(a)</p> <p>26.11.13.03A(2)(b)</p> <p>26.11.13.03A(2)(c)</p> <p>26.11.13.04A(1)(a)</p> <p>26.11.13.04A(1)(a)(i)</p> <p>26.11.13.05A</p>	<p>-There shall be no visible holes, tears, or other openings in the seal or seal fabric</p> <p>-Each seal shall be intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall</p> <p>-The accumulated area of the gaps between the secondary seal and the tank wall and between the seal and other obstructions inside the tank (that is, ladder, roof supports) that are greater than 1/8 inch in width may not exceed 1.0 square inch per foot of tank diameter</p> <p>-Each tank's gauging and sampling devices shall be gas tight except when in use</p> <p>-Each of the storage tanks shall be operated with a well maintained internal floating roof equipped with a primary and secondary seal</p> <p>-There shall be no visible holes, tears, or other openings in the seal or seal fabric</p> <p>-Each seal shall be intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall</p> <p>-The accumulated area of the gaps between the secondary seal and the tank wall and between the seal and other obstructions inside the tank (that is, ladder, roof supports) that are greater than 1/8 inch in width may not exceed 1.0 square inch per foot of tank diameter</p>

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
			<p>26.11.13.04A(1)(b)(i)</p> <p>26.11.13.04A(1)(b)(ii)</p> <p>26.11.13.04A(1)(c)</p>	<p>-Vapor collection and control system controlling emissions from the loading system shall collect the total organic compounds vapors displaced from tank trucks during product loading and shall control at least 90 percent of all vapors from the loading racks</p> <p>- Emissions to the atmosphere from the vapor collection system due to the loading of liquid product into tank trucks at the loading rack may not exceed 0.29 pounds of VOC per 1,000 gallons (35 milligrams of total organic compounds per liter) of gasoline or VOC loaded</p> <p>- Not allow a gasoline or VOC tank truck to be filled or emptied unless the tank has been certified as capable of sustaining a pressure change of not more than three (3) inches of water in five (5) minutes when pressurized to a gauge pressure of 18 inches of water (4,479 kilonewtons/square meter), or evacuated to a gauge pressure of six (6) inches of water (1,493 kilonewtons/square meter), during a test, according to the procedure referenced in COMAR 26.11.13.05B(2)</p> <p>-During loading, the gasoline or VOC tank truck pressure does not exceed 18 inches of water and vacuum does not exceed 6 inches of water</p>

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
				<p>- No gasoline or VOC leaks in the system when tested by the method referenced in COMAR 26.11.13.04A(3)(a) during loading or unloading operations</p> <p>- Maintain a top submerged or bottom loading system on the terminal's loading racks</p>
<b>Cato Inc. – Fitzwater Terminal 24045 045-0099</b>	31.33	Bulk Gasoline Terminal with Gasoline Storage Tanks and a Loading Rack – controlled by a VCU (Vapor Combustion Unit)	26.11.13.03A(1)  26.11.13.04A(1)(a)(ii)  26.11.13.05A  Synthetic Minor	Control of VOC emissions from storage vessels  Limits VOC emissions from loading operations to 0.67 lbs VOC per kilogallon of gasoline loaded -controlled by a VCU (Vapor Combustion Unit)  Gasoline must be loaded into vapor tight tank trucks  Premise wide VOC emissions must be less than 50 tons in any rolling 12-month period.
<b>Texas Eastern Transmission 24023 023-0081</b>	38.95	Natural Gas Compressor Station  (natural gas-fired reciprocating stationary IC engines, to pump natural gas from the transmission pipeline)  Equipment Leaks during	26.11.29.05    26.11.13.04D	Emissions control and monitoring equipment    -Loading connections on the vapor lines are equipped with fittings that have no leaks and that automatically and immediately close upon disconnection to prevent release of gasoline or VOC from these fittings



Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
		VOC Storage and Transfer		-Equipment is maintained to prevent avoidable liquid leaks during loading and unloading operations
<b>Canam Steel Corporation 24021 021-0254</b>	61.33	Fabricated Structural Metal Manufacturing	26.11.19.02 I	-Provisions for training of operators on practices, procedures, and maintenance requirements that are consistent with the equipment manufacturers' recommendations and the source's experience in operating the equipment, with the training to include proper procedures for maintenance of air pollution control equipment -Maintenance of covers on containers and other vessels that contain VOC and VOC-containing materials when not in use -As practical, scheduling of operations to minimize color or material changes when applying VOC coatings or other materials by spray gun -For spray gun applications of coatings, use of high volume low pressure (HVLP) or other high efficiency application methods where practical -As practical, mixing or blending materials containing VOC in closed containers and taking preventive measures to minimize emissions for products that contain VOC
		Structural Steel Coating Operations	26.11.19.13-3	Coating Requirements <ul style="list-style-type: none"> <li>• 3.9 pounds of VOC per gallon, as applied in a dip coating operation; or</li> <li>• 3.5 pounds of VOC per gallon, as applied by means other than a dip coating operation</li> </ul>
			26.11.19.16	

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
				<p>-Visually inspect all components on the premises for leaks at least once each calendar month.</p> <p>-Tag any leak immediately so that the tag is clearly visible. The tag shall be made of a material that will withstand any weather or corrosive conditions to which it may be normally exposed. The tag shall bear an identification number, the date the leak was discovered, and the name of the person who discovered the leak. The tag shall remain in place until the leak has been repaired</p> <p>-Take immediate action to repair all observed VOC leaks that can be repaired within 48 hours</p> <p>-Repair all other leaking components not later than 15 days after the leak is discovered. If a replacement part is needed, the part shall be ordered within 3 days after discovery of the leak, and the leak shall be repaired within 48 hours after receiving the part</p> <p>-Maintain a supply of components or component parts that are recognized by the source to wear or corrode, or that otherwise need to be routinely replaced, such as seals, gaskets, packing, and pipe fittings</p> <p>-Maintain a log that includes the name of the person conducting the inspection and the date on which leak inspections are made, the findings of the inspection, and a list of leaks by tag identification number. The log shall be made available to the Department upon</p>

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
				request. Leak records shall be maintained for a period of not less than 2 years from the date of their occurrence
<b>Raven Power Fort Smallwood Complex (Brandon Shores and H.A. Wagner Generating Stations) 24003 003-0468</b>	101.73	Fuel Burning	26.11.13.04C(2)  26.11.24.07D(1)  26.11.13.04D	Operator of a stationary storage tank may not cause or permit gasoline to be loaded into a stationary tank unless the loading system is equipped with a vapor balance line that is properly installed, maintained, and used  Operator of an existing gasoline dispensing facility with a monthly gasoline throughput of less than 10,000 gallons shall create and maintain records on gasoline throughput and tank sizes and make the records available to the Department on request  -Not cause or permit gasoline or VOC having a TVP of 1.5 psia (10.3 kilonewtons/square meter) or greater to be loaded into any tank truck, railroad tank car, or other contrivance unless the: <ul style="list-style-type: none"> <li>• Loading connections on the vapor lines are equipped with fittings that have no leaks and that automatically and immediately close upon disconnection to prevent release of gasoline or VOC from these fittings; and</li> <li>• Equipment is maintained and operated in a manner to prevent avoidable liquid leaks during loading or unloading operations.</li> </ul>
		Shop Paint Booth	26.11.19.08	

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit																																												
		Coating Standards	26.11.19.08(D)	<p>D. Emission Standards.</p> <p>(1) A person subject to this regulation may not exceed the applicable VOC emission standards (expressed in terms of mass of VOC per volume of coating excluding water and exempt compounds, as applied) of the following table when applying a metal furniture coating:</p> <table> <tr> <th rowspan="2">Coating Type</th><th colspan="2">Baked</th><th colspan="2">Air-Dried</th></tr> <tr> <th>Lbs/gal</th><th>Kg/l</th><th>Lbs/gal</th><th>Kg/l</th></tr> <tr> <td>General, one-component</td><td>2.3</td><td>0.275</td><td>2.3</td><td>0.275</td></tr> <tr> <td>General, multi-component</td><td>2.3</td><td>0.275</td><td>2.8</td><td>0.340</td></tr> <tr> <td>Extreme performance</td><td>3.0</td><td>0.360</td><td>3.5</td><td>0.420</td></tr> <tr> <td>Metallic</td><td>3.5</td><td>0.420</td><td>3.5</td><td>0.420</td></tr> <tr> <td>Pretreatment</td><td>3.5</td><td>0.420</td><td>3.5</td><td>0.420</td></tr> <tr> <td>Solar absorbent</td><td>3.0</td><td>0.360</td><td>3.5</td><td>0.420</td></tr> <tr> <td>Extreme high gloss</td><td>3.0</td><td>0.360</td><td>2.8</td><td>0.340</td></tr> </table> <p>(2) A person subject to this regulation may not exceed the applicable VOC emission standards (expressed in terms of mass of VOC per volume of coating excluding water and exempt compounds, as applied) of the following table</p>	Coating Type	Baked		Air-Dried		Lbs/gal	Kg/l	Lbs/gal	Kg/l	General, one-component	2.3	0.275	2.3	0.275	General, multi-component	2.3	0.275	2.8	0.340	Extreme performance	3.0	0.360	3.5	0.420	Metallic	3.5	0.420	3.5	0.420	Pretreatment	3.5	0.420	3.5	0.420	Solar absorbent	3.0	0.360	3.5	0.420	Extreme high gloss	3.0	0.360	2.8	0.340
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Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit																																							
				<p>when applying a metal parts and products coating:</p> <table> <tr> <th rowspan="2">Coating Type</th><th colspan="2">Baked</th><th colspan="2">Air-Dried</th></tr> <tr> <th>Lbs/gal</th><th>Kg/l</th><th>Lbs/gal</th><th>Kg/l</th></tr> <tr> <td>General, one-component</td><td>2.3</td><td>0.275</td><td>2.8</td><td>0.340</td></tr> <tr> <td>General, multi-component</td><td>2.3</td><td>0.275</td><td>2.8</td><td>0.340</td></tr> <tr> <td>Adhesion promoter</td><td>4.0</td><td>0.479</td><td>4.0</td><td>0.479</td></tr> <tr> <td>Prefabricated architectural one component and multi-component</td><td>2.3</td><td>0.280</td><td>3.5</td><td>0.420</td></tr> <tr> <td>Military specification</td><td>2.3</td><td>0.280</td><td>2.8</td><td>0.340</td></tr> <tr> <td>Extreme high-gloss; extreme performance; heat-resistant; high performance architectural; repair coating; solar absorbent; or touch up coating</td><td>3.0</td><td>0.360</td><td>3.5</td><td>0.420</td></tr> </table>	Coating Type	Baked		Air-Dried		Lbs/gal	Kg/l	Lbs/gal	Kg/l	General, one-component	2.3	0.275	2.8	0.340	General, multi-component	2.3	0.275	2.8	0.340	Adhesion promoter	4.0	0.479	4.0	0.479	Prefabricated architectural one component and multi-component	2.3	0.280	3.5	0.420	Military specification	2.3	0.280	2.8	0.340	Extreme high-gloss; extreme performance; heat-resistant; high performance architectural; repair coating; solar absorbent; or touch up coating	3.0	0.360	3.5	0.420
Coating Type	Baked		Air-Dried																																								
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General, multi-component	2.3	0.275	2.8	0.340																																							
Adhesion promoter	4.0	0.479	4.0	0.479																																							
Prefabricated architectural one component and multi-component	2.3	0.280	3.5	0.420																																							
Military specification	2.3	0.280	2.8	0.340																																							
Extreme high-gloss; extreme performance; heat-resistant; high performance architectural; repair coating; solar absorbent; or touch up coating	3.0	0.360	3.5	0.420																																							

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit				
				Camouflage, electric- insulating varnish; etching filler; high temperature; metallic; mold-seal; pan backing; pretreatment; silicone release and vacuum- metalizing	3.5	0.420	2.8	0.420
<b>NRG GenOn Mid-Atlantic - Morgantown</b>	67.18	Electric Generation  Firing Bituminous coal  Boilers  Combustion turbines  Fuel Storage and Handling Equipment	26.11.06.06B(2)(c)	Prohibits NRG from causing or permitting the discharge of VOC emissions from any installation in excess of 20 lb/day unless the discharge is reduce by 85 percent or more overall				
<b>C.P. Crane LLC (Subsidiary of Raven Power Holdings LLC) 24005 005-0079</b>	32.77	Electric Generation -  Firing Bituminous coal  Boilers  Combustion turbines	26.11.06.06B(2)(c)	Prohibits facility from causing or permitting the discharge of VOC emissions from any installation in excess of 20 lb/day unless the discharge is reduce by 85 percent or more overall				



Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
				To minimize leaks from VOC equipment and their components, including process equipment, storage tanks, pumps, compressors, valves, flanges and other pipeline fittings, pressure relief valves, process drains, and open-ended pipes
<b>Plymouth Tube Company</b> <b>24045</b> <b>045-0121</b>	20.78	Company manufactures stainless steel tubing for aerospace, high-tech electronic systems, and medical applications	26.11.19.09E  26.11.19.16C	Vapor degreasers (Each vapor degreaser has a condenser, utilizes an air pollution control device (carbon adsorption unit) with an overall control efficiency of not less than 90 percent (i.e. efficiency of the carbon adsorption unit is 97 percent), and includes a separate enclosed chamber that allows draining of the parts being cleaned and which enables the capture of the vapors)  Routinely identifies all leaks (actual or potential) and repairs them expeditiously. The units have been found to be air-tight, without any leaks, as was the case during the most recent inspection of October 16, 2008. There were no leak identification tags on process equipment and no odors were detected in the sump area near the degreaser
<b>Sparrows Point, LLC</b> <b>24005</b> <b>005-0147</b>	106.23	Fuel Burning  Sinter Strand Scrubber System	26.11.10.06C(1)	Emissions standard calculated on a daily average basis of 0.25 pound of VOC per ton of sinter produced AND -Maintain the 30-day rolling average oil content of the feedstock at or below 0.02 percent; or -Maintain the 30-day rolling average of



Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
			26.11.10.06E	<p>volatile organic compound emissions from the windbox exhaust stream at or below 0.2 lb/ ton of sinter</p> <ul style="list-style-type: none"> <li>-Develop and maintain a good management practices plan for each installation</li> <li>-Implement the good management practices plan to reduce VOC emissions</li> <li>-Make the plan available to the Department upon request.</li> <li>- Good management practices plan for each Basic Oxygen Furnace installation to reduce VOC emissions</li> <li>-Maintain written or printable electronic copies of all good management practices plan for each Basic Oxygen Furnace installation to reduce VOC emissions</li> <li>-Make available to the Department upon request copies of good management practices plan for each Basic Oxygen furnace installation for VOC emission reduction</li> </ul>
			26.11.10.06E(1)	
			26.11.10.06(B)	<ul style="list-style-type: none"> <li>-Skim the oil and grease from the cooling water at the continuously casters.</li> <li>- Maintain a record of the continuous skimming of the oil and grease from the cooling water at the continuous casters.</li> <li>- Make available to the Department upon request the records of the continuous skimming of the oil and grease at the cooling water at the continuous caster</li> </ul>
				-Keep data sheets, that indicates the vapor

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
		Hot Strip Rolling Mill (HSMRM) only	26.11.10.06D  26.11.19.05(B)	pressure of the rolling oils and rust preventative oils that are used at the hot rolling mill. These records shall be kept on site for at least five (5) years and shall be made available to the Department upon request.  Not cause or permit the discharge into the atmosphere of any VOC from coil coating in excess of 2.6 pounds per gallon of coating applied (minus water) (0.31 kilogram/liter of coating applied (minus water))
<b>Lehigh Cement Company LLC 24013 013-0012</b>	27.70	Cement Plant	26.11.01.11C	Use continuous emission monitoring system (CEM) to monitor total hydrocarbon (THC) emissions from the main exhaust stack
<b>Polystyrene Products Company, Inc. 24005 005-2305</b>	27.67	expandable polystyrene operation (EPO) shape- molding facility  expansion and molding of polystyrene	26.11.19.19  26.11.19.19C(2)(c)  26.11.19.19C(2)(d)  26.11.19.19C(3)	-Use polystyrene beads with a VOC content of not more than six (6) percent by weight for the manufacture of shape-molded products, including cups, other than “specialty products” as defined in COMAR 26.11.19.19B(2)(g)  Use reduced VOC content beads (unexpanded polystyrene beads with a VOC content less than seven (7) percent by weight for the manufacture of “specialty products” as defined in COMAR 26.11.19.19B(2)(g)) Compliance with the limit for VOC content of beads used for “specialty products”, and beads used for non-specialty products, shall

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
			<p>26.11.19.19C(4)</p> <p>26.11.19.02I</p>	<p>be determined by comparison of the applicable standard with the daily average VOC content of the beads used for each type of product molded</p> <p>Collect spills of unexpanded polystyrene beads and place any spilled material in a closed container to prevent and suppress emissions</p> <p>Establish in writing and implement facility-wide “good operating practices” designed to minimize emissions of VOC:</p> <ul style="list-style-type: none"> <li>Provisions for training operators on methods to minimize VOC emissions at the facility, and provisions for minimizing VOC emissions from clean-up and storage operations, including maintaining covers on containers;</li> <li>VOC display the “good operating practices” documents in clear view for all operators that work with these types of VOC emitting process areas</li> </ul>
<b>Spartech FCD, LLC</b> <b>24045</b> <b>045-0082</b>	20.42	<p>manufactures semi-rigid/plasticized polyvinyl chloride (PVC) and acrylonitrile butadiene styrene (ABS) film and sheet</p> <p>prints and coats plastic films and paper via rotogravure</p>	<p>26.11.19.07C</p> <p>26.11.19.16C</p>	<p>Limits VOC emissions from vinyl printing or coating installations that emit more than 20 pounds of VOCs (Volatile Organic Compounds) per day, to no more than 3.8 pounds per gallon (as applied minus water) of the VOC content of any ink or coating applied to a vinyl substrate</p> <p>-Visually inspect all components on the premises for leaks at least once each calendar month.</p>

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
		printing/coating processes  lamination process	26.11.19.02B	<p>-Tag any leak immediately so that the tag is clearly visible. The tag shall be made of a material that will withstand any weather or corrosive conditions to which it may be normally exposed. The tag shall bear an identification number, the date the leak was discovered, and the name of the person who discovered the leak. The tag shall remain in place until the leak has been repaired.</p> <p>-Take immediate action to repair all observed VOC leaks that can be repaired within 48 hours.</p> <p>-Repair all other leaking components not later than 15 days after the leak is discovered. If a replacement part is needed, the part shall be ordered within 3 days after discovery of the leak, and the leak shall be repaired within 48 hours after receiving the part.</p> <p>-Maintain a supply of components or component parts that are recognized to wear or corrode, or that otherwise need to be routinely replaced, such as seals, gaskets, packing, and pipe fittings.</p> <p>-Applying low VOC coatings or adhesives that meet applicable standards;</p> <p>- Using a control device that, when tested by approved test methods:</p> <ul style="list-style-type: none"> <li>• Complies with applicable emission reduction requirements, or</li> <li>• Results in an emission reduction equal to or greater than the emission reduction that would have been</li> </ul>

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
				<p>achieved by complying with Section B(2)(a) of this regulation;</p> <p>-Complying with the operating conditions or equipment specifications established in the applicable regulation;</p> <p>-Reducing emissions by using water-based coatings, resins, inks, or similar products that contain less than 25 percent VOC by volume of the volatile portion of the product, for sources subject to VOC limits in coatings or inks or other similar products; or</p> <p>- Using an alternative method of assessing compliance if:</p> <ul style="list-style-type: none"> <li>• The alternative method is approved by the Department,</li> <li>• The resulting emissions are equal to or less than the emissions that would have been discharged by complying with emission standards,</li> <li>• Adequate records are maintained to ensure enforceability, and</li> <li>• The alternative compliance method is approved by the U.S. EPA as a revision to the State Implementation Plan.</li> </ul> <p>Regenerative Thermal Oxidizer: controls VOC emissions from the converting operation, which consists of ink/coating storage, an ink/coating mixing room, three rotogravure printing presses (limits emissions to 3.8 pounds of VOC per gallon of coating (as applied minus water) or an equivalent emissions reduction)</p>

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
<b>Complementary Coatings Corporations (DBA INSL- X) 24510 510-1056</b>	30.69	paint manufacturing plant	26.11.19.15B  26.11.19.15B(6)   16.11.19.15B(4) and (6)   26.11.19.15B(7)   26.11.19.15B(8)   26.11.33.04   26.11.33.06A	Equip all open top vessels or tanks used to mix paint, disperse pigment, or adjust the viscosity or color of a paint with covers. The covers shall be VOC impermeable and may be equipped with an opening not larger than necessary for safe clearance of the mixer shaft  Not use any open top vessel or tank to mix paint, disperse pigment, or adjust the viscosity or color of a paint unless the vessel or tank opening is covered. The vessel or tank opening covered at all times except when operator access is necessary  Shall clean all vessels and tanks used to manufacture paint with detergent, hot alkali, high pressure water, or use other reasonable precautions approved by the Department that minimize emissions of VOC  Shall not transfer VOC into any tank or vessel used to manufacture paint unless submerged filling or a side diversion method (referred to as cascade filling) that forces the VOC to the sidewalls to prevent splashing is used. Quality control additions, of less than or equal to 55 gallons, are not subject to this requirement  VOC Emissions are minimized because solvent quantities added are minimized due to end product specifications, which prohibits the manufacture of architectural coatings for sale within the State, with a

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
			<p>26.11.33.10</p> <p>26.11.19.02I</p> <p>26.11.19.16C</p>	<p>VOC content in excess of the corresponding limits specified in COMAR 26.11.33.05</p> <p>If anywhere on the container of an architectural coating, label or sticker affixed to the container, or in any sales, advertising, or technical literature supplied by a manufacturer or anyone acting on behalf of a manufacturer, any representation is made that indicates that the coating meets the definition of or is recommended for use for more than one of the coating categories listed in COMAR 26.11.33.05, then the most restrictive VOC content limit applies</p> <p>A coating that does not meet the definitions in COMAR 26.11.33.03 for the specialty coatings categories listed in COMAR 26.11.33.05 is subject to the VOC content limit for either a flat coating or a non-flat coating, based on its gloss as determined in COMAR 26.11.33.02 to implement good operating practices to minimize Volatile Organic Compound (VOC) emissions into the atmosphere.</p> <p>Minimize leaks from VOC equipment and their components, including process equipment, storage tanks, pumps, compressors, valves, flanges and other pipeline fittings, pressure relief valves, process drains, and open-ended pipes.</p>

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
Engineered Polymer Solutions Inc. 24043 043-0305	30.54	Resin reactor Gas-fired boiler Gas-fired thermal-oil heating furnace Tank farm	26.11.19.02I  26.11.19.16  26.11.19.15B(7)  26.11.13.04D	<p>Good operating practices (must include provisions for training operators concerning methods to minimize VOC emissions at the facility, and provisions for minimizing VOC emissions from clean-up and storage operations, including maintenance of covers on containers of VOC and VOC-bearing materials.)</p> <p>To implement a facility wide VOC leak detection and repair program</p> <p>Clean all resin reactors with detergent, hot alkali or high pressure water or use other reasonable methods that minimize missions of VOC and that are approved by the Department.</p> <p>Establishes that a person may not cause or permit gasoline or VOC having a TVP of 1.5 psia or greater to be loaded into any tank truck, railroad tank car, or other contrivance unless the:</p> <ul style="list-style-type: none"> <li>• Loading connections on the vapor lines are equipped with fittings that have no leaks and that automatically and immediately close upon disconnection to prevent release of gasoline or VOC from these fittings; and</li> <li>• Equipment is maintained and operated in a manner to prevent avoidable liquid leaks during loading or unloading operations.</li> </ul>



Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
<b>Solo Cup Operating Corporation 24011 011-0044</b>	19.73	Installation of one (1) natural gas fired, 5-color, 47-inch, Kidder flexographic printing press with integral oven.	General  26.11.19.02I  26.11.19.10C      26.11.19.16C&D  26.11.19.02B(2)(d)	This facility is a synthetic minor for VOC and HAP emissions. Limited to 50 tons of VOC emissions in any rolling 12-month period. Implement good operating practices to minimize VOC emissions  Reduce emissions by using water-based inks that contain less than 25 percent VOC by volume of the volatile portion of the ink, or high solids inks that contain not less than 60 percent nonvolatiles; OR If compliance with the requirements of § C(1) of this regulation cannot be achieved, reduce the VOC content of each ink, or reduce the average VOC content of inks used at each press, as follows: (a) 60 percent reduction for flexographic presses, (b) 65 percent reduction for packaging rotogravure presses, and (c) 75 percent reduction for publication rotogravure presses.”  Control of VOC Equipment Leaks  Use low VOC inks and coatings to meet the emissions limit and T-BACT requirements.

Facility Name County FIPS Premise ID	2011 VOC (tpy)	Main Source of VOC Emissions	Applicable COMAR	RACT Technology and Limit
<b>Perdue Farms Incorporated</b> – Salisbury <b>24045</b> <b>045-0042</b>	225.92	Hexane Extraction  soybean oil extraction plant (SOEP)	26.11.01.05    26.11.19.16	Determine for the previous calendar year the ratio of gallons of VOC emissions from the soybean oil extraction plant (SOEP) to the tons of soybeans processed in the SOEP  Visually inspect all equipment and components in VOC service for leaks at least once per calendar month
<b>Orograin Bakeries</b> <b>Manufacturing, Inc.</b> <b>24021</b> <b>021-0234</b>	37.48	Bakery Oven	26.11.19.21  26.11.19.21C(2) & D(1)  26.11.19.21D(2)      26.11.19.21C(5)	Exceeds the average annual production tonnage of finished bread, rolls, or other yeast-raised products for the corresponding Yt value listed below, then thereafter the operator shall be subject to COMAR 26.11.19.21D(2) <ul style="list-style-type: none"> <li>• 10,000 tons with a Yt value of greater than 11.0;</li> <li>• 15,000 tons with a Yt value between 8.1 and 11.0;</li> <li>• 22,500 tons with a Yt value less between 5 and 8.0;</li> <li>• 28,000 tons with a Yt value less than 5.</li> </ul> Any commercial bakery oven constructed on or after January 1, 1994 that satisfies the conditions in COMAR 26.11.19.21D(1) the operator shall comply with COMAR 26.11.19.21D(2)

## **2.5 CONCLUSION**

Maryland's programs to reduce VOC emissions are being implemented successfully, resulting in reduced emissions throughout the state and downwind transport areas. MDE continues to take action to develop local and regional control measures and influence national strategies to further reduce ozone levels as necessary to attain and maintain the 2008 8-hour ozone NAAQS and to address future ozone NAAQS.

Based on a review of existing RACT regulations, Title V sources and emission statements from major stationary sources in Maryland, MDE finds that the RACT requirements pursuant to the 2008 8-hour NAAQS have been fulfilled. MDE's evaluation has determined that all CTG sources, major non-CTG sources and sources subject to source-specific RACT under its jurisdiction are controlled by RACT or better standards. RACT determinations are consistent with the most recent emissions control technology and economic considerations.