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# COMAR 26.11.32 – Control of Emissions of Volatile Organic Compounds (VOC) from Consumer Products (CP)



AQCAC meeting – September 19, 2016

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# Topics Covered

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- Action Overview
- CARB/OTC Rule process
  - OTC Model Rule adoption and Regional Consistency
- Response to AQCAC Comments
- Regulation Timeline



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# Consumer Products Amendments

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- The purpose of this action is to amend existing regulations under COMAR 26.11.32.
- This action will establish VOC standards for eleven new consumer product categories and strengthen VOC standards for fourteen existing consumer product categories.
- The amendments are based upon the 2014 OTC Model Rule for Consumer Products.
- MDE has been actively working with OTC and stakeholders
  - Stakeholders supportive of this action
  - Several states have already adopted or are in process
  - Compliant consumer products are already available on the market
  - Positive environmental and health benefits

# Consumer Products Adoption Process

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- On June 6, 2016, the Department presented a proposed Consumer Products regulation to the Council.
- The Council generally supported the proposed regulation and VOC reductions.
  - However, the Council voted to defer final vote to September 19 AQCAC.
  - The Council requested a two-page summary on CARB toxic rulemaking process as it relates to air toxics.
  - The Council also requested the Department explore proposed regulatory language that links the MD toxic prohibitions to the current CARB rules.
- MDE staff conducted extensive research and held numerous calls with OTC and CARB.
- On July 22, 2016, MDE submitted the two-page CARB Protocol and Procedures document to the Council.
- OTC's 2014 Consumer Product Model Rule and Maryland's current proposed regulations prohibit toxics from 26 consumer product categories that match California prohibitions up to 2009.
  - OTC is gearing up for a Phase 5 Consumer Products Rule that will incorporate more recent VOC limits and toxic prohibitions.
  - MDE will actively support the OTC in the development of this rule and adopt the new model rule in a timely fashion to ensure environmental protection and regional consistency.

# AQCAC Requests – June 6, 2016

1. Provide a summary of the amount of VOC estimated in Maryland and actual CP rule benefit

2. Prepare a high level two-page summary on CARB protocol/ rulemaking process as it relates to air toxics

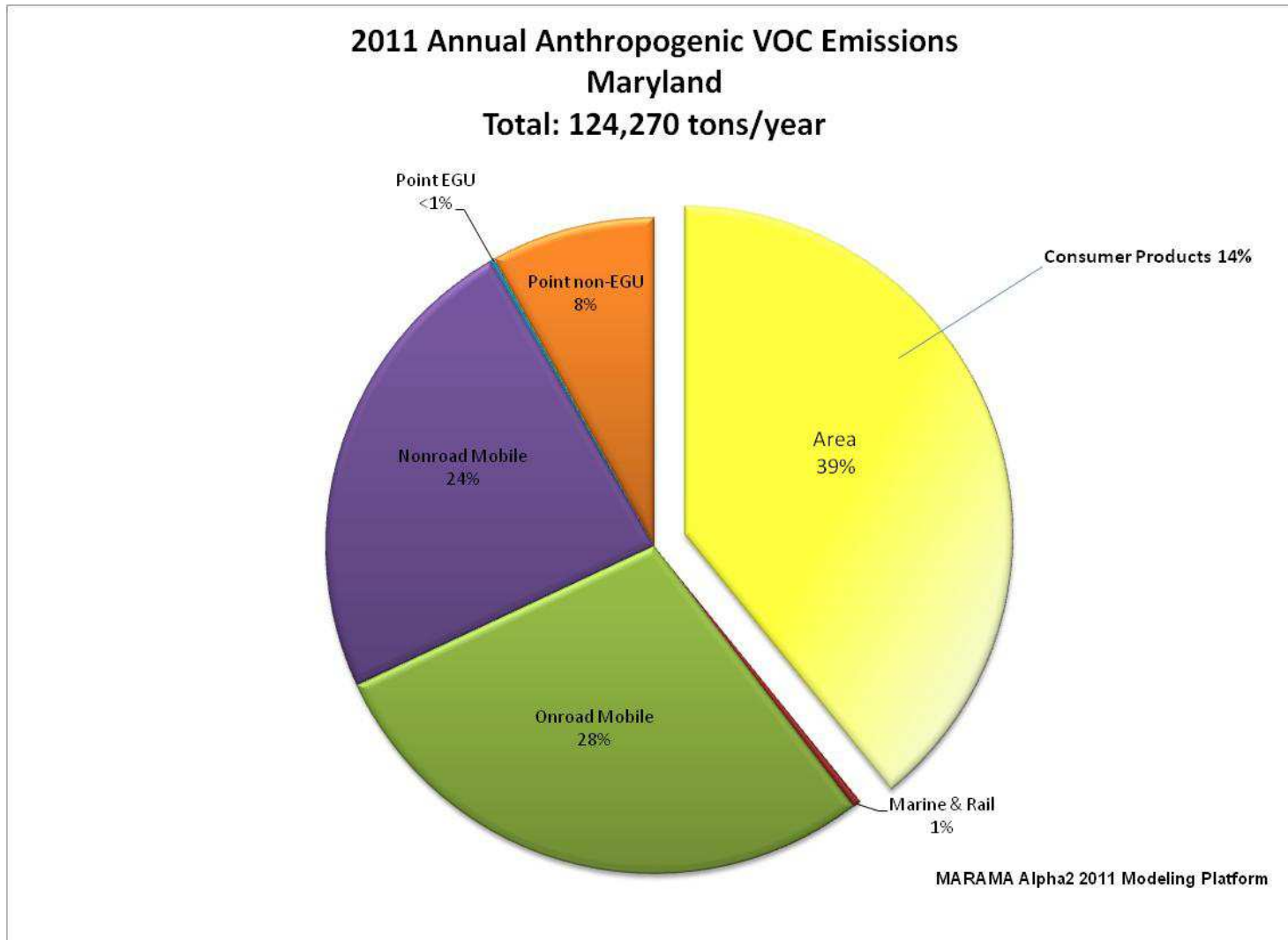
We advise that  
MDE...

3. Propose regulatory language that links the CP regulation to the CARB process

4. Provide more detail regarding Artist Solvent/Thinner exemption



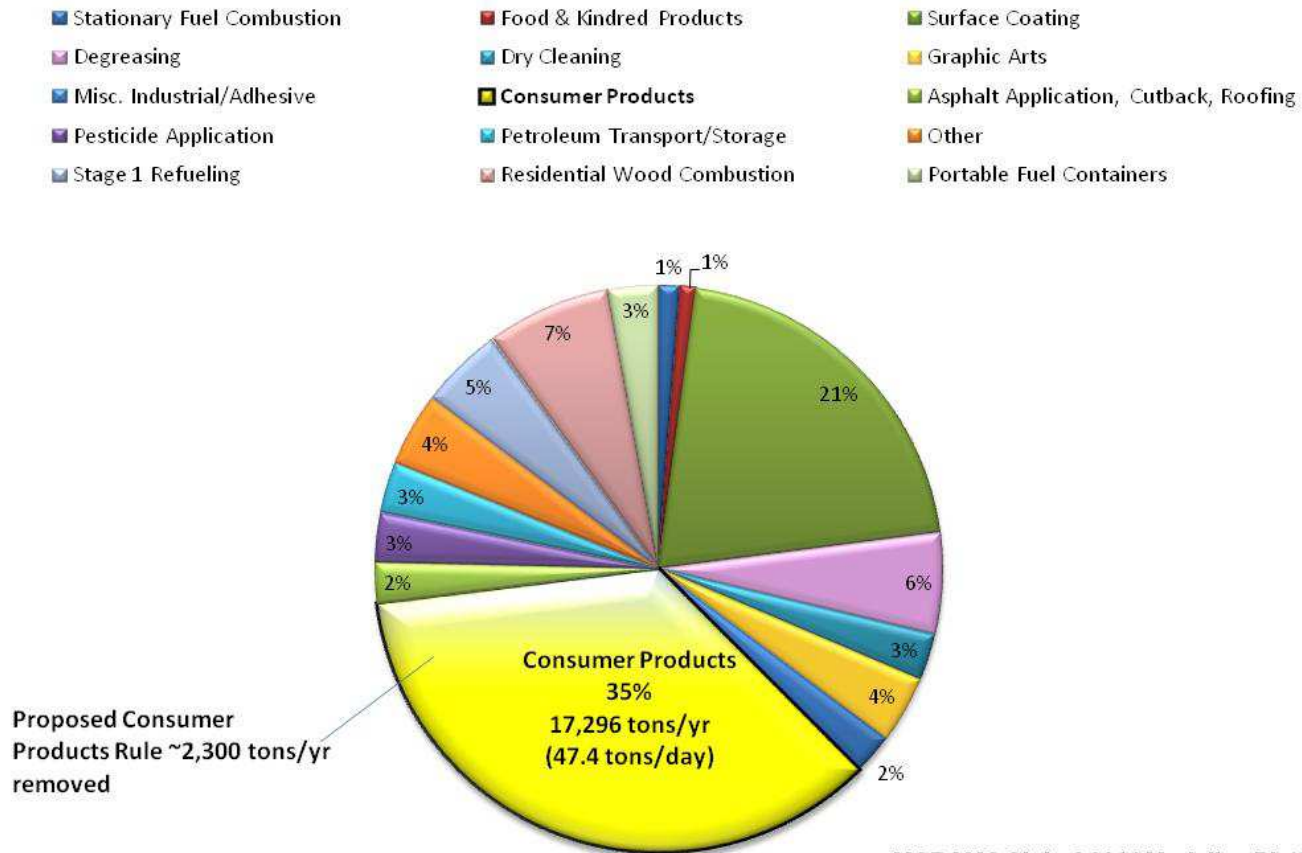
# 1. Summary of VOC Emissions



# 1. Summary of VOC Emissions

## 2011 Area Source VOC Emissions Maryland

Total: 48,689 tons/year



MARAMA Alpha2 2011 Modeling Platform

# 1. Summary of VOC Emissions and CP Regulation Benefits

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- In 2011, Consumer Products made up 35% of Area Source VOC emissions
  - 17,296 tons/year or 47.4 tons/day
- Proposed CP regulation will result in a reduction of over 13% or ~6.3 tons/day
- Though CARB compliant products are already in the market from nationwide manufacturers, MD VOC emission benefits lie in companies who sell their products regionally or solely in the state of MD
  - Example CP categories include multipurpose solvents and paint thinners



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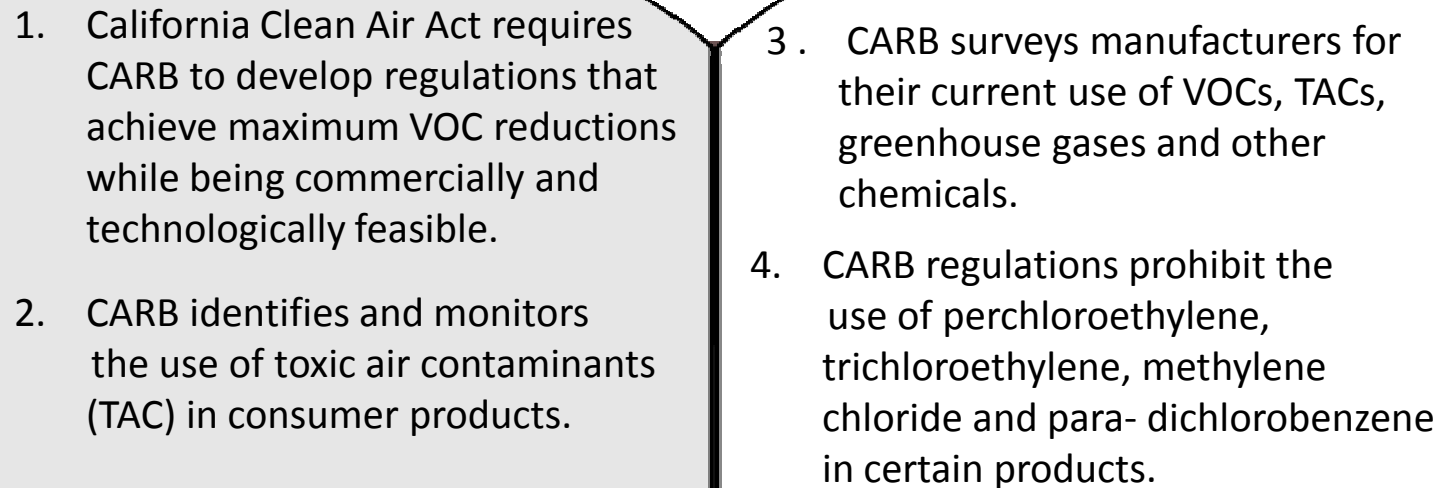


## 2. CARB Procedures

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- On July 22, 2016, MDE provided AQCAC a summary of CARB procedures for the evaluation of health risks from toxics in consumer products to AQCAC members.

### SUMMARY OF FINDINGS

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1. California Clean Air Act requires CARB to develop regulations that achieve maximum VOC reductions while being commercially and technologically feasible.
  2. CARB identifies and monitors the use of toxic air contaminants (TAC) in consumer products.
  3. CARB surveys manufacturers for their current use of VOCs, TACs, greenhouse gases and other chemicals.
  4. CARB regulations prohibit the use of perchloroethylene, trichloroethylene, methylene chloride and para- dichlorobenzene in certain products.

## 3. Link to CARB Process

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1. CARB develops CP rule



2. OTC develops CP model rule that States can adopt



3. MDE adopts OTC CP model rule

- Proposed CP regulation is based on 2006 & 2009 CARB CP rules
- OTC is currently in the process of revising existing rule to match more recent CARB rules



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# Toxic Substances Control Act (TSCA)

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- June 22, 2016 - President Obama signed the Frank R. Lautenberg Chemical Safety for the 21st Century Act into law. This Act amends TSCA, the Nation's primary chemicals management law.
- Under the new law, states may be preempted from regulating a chemical that EPA has acted upon. Maryland regulations may also fall under several exemptions to preemption.
- EPA is in the process of proposing several rules:
  - Proposed rule for TCE use in spot cleaning and aerosol degreasing by early October 2016; final rule anticipated early October 2017.
  - Proposed rule for DCM use in paint removers by early December 2016; final rule anticipated early December 2017.
- MDE will continue to monitor these rules and future rulemakings for any developments that may affect the consumer product regulations.



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## 4. Artists Solvent and Thinner

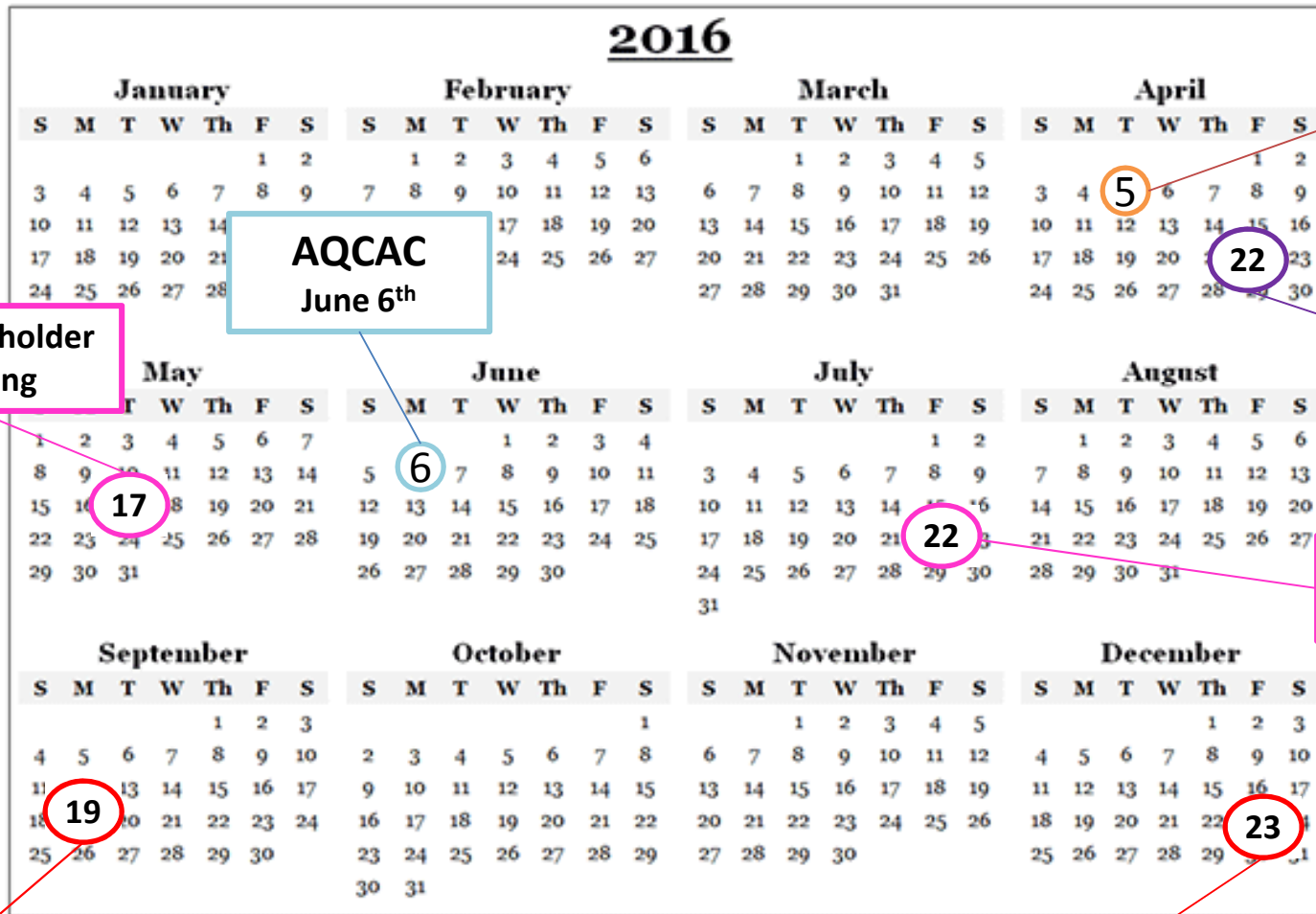
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- CARB conducted a survey for Artists Solvent and Thinner Product Category
  - Within the Paint Thinner Category, sales and emissions reported for these products were minuscule
  - ASTM D 4236 requires that any art material, including solvents, meet standards to protect consumers of any age from potential health hazards of these products
  - Standard additionally requires that the art material be reviewed by a board certified or qualified toxicologist and labeled consist with the standard
- Therefore, CARB exempted the VOC limits for this category from the CP rule



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# Regulation Timeline



1<sup>st</sup> Stakeholder meeting

AQCAC June 6<sup>th</sup>

2<sup>nd</sup> Stakeholder meeting

Stakeholder comments

Toxic Summary to AQCAC

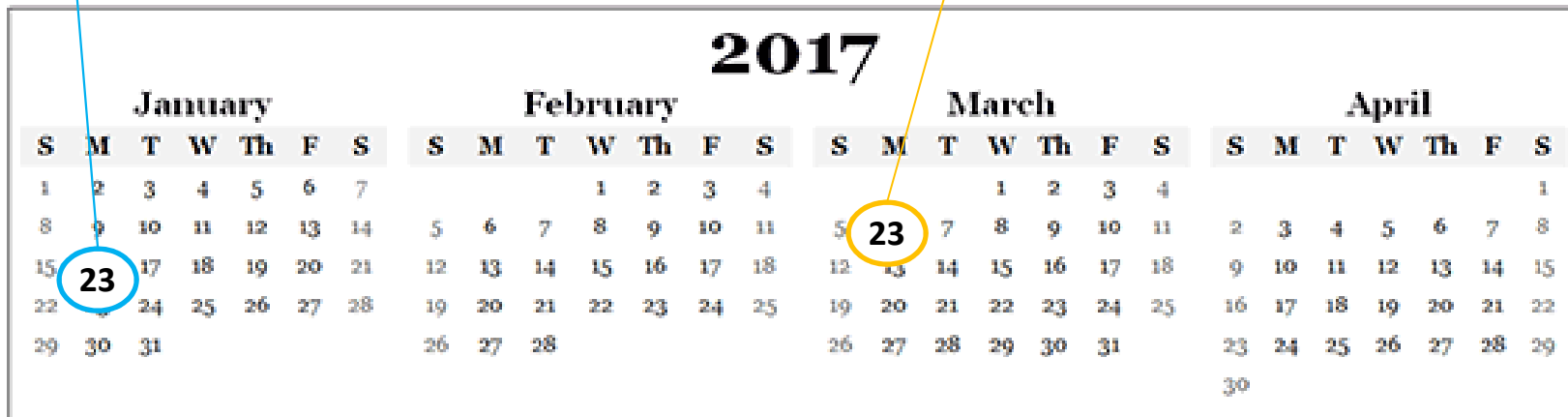
TODAY

PROPOSED ACTION ANNOUNCED

# Regulation Timeline contd.

Tentative PUBLIC HEARING

REGULATION FINAL ADOPTION



Regulation Compliance Date: **January 1, 2018**



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# Questions and Discussion

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# Additional Slides

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# Ozone Transport Commission (OTC)

- Maryland is a member state of the Ozone Transport Commission (OTC), an organization set up by Congress under the Clean Air Act (CAA) which is composed of 13 States (including D.C.) in the Northeast and mid-Atlantic regions.
- These States are generally in non-attainment of the National Ambient Air Quality Standards for ground-level ozone.
- The OTC develops model rules for the member States to use to reduce the emissions of ground-level ozone precursors.



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# CARB/OTC Rule Process

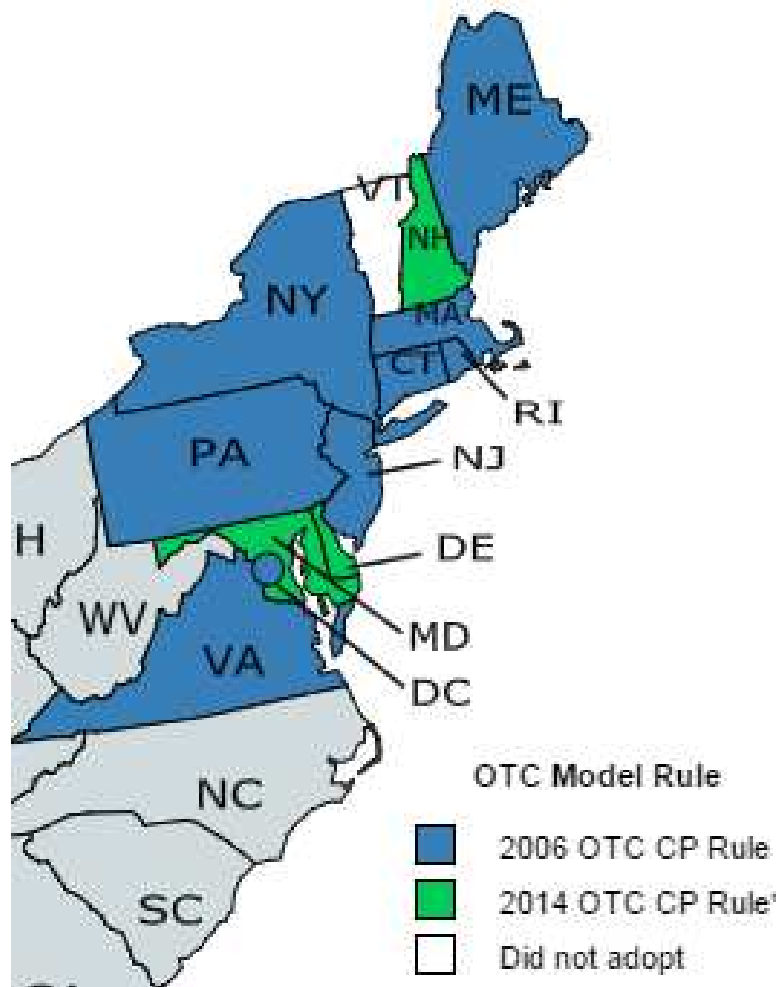
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- Adoption of OTC Model rules by member States ensures regulatory consistency throughout the region.
- OTC Consumer Products regulations are based off of California Air Resources Board (CARB) rules.
- California Clean Air Act requires CARB to assure CP regulations are commercially and technologically feasible.
- CARB conducts surveys with manufactures to determine feasibility of reducing VOC emissions from CPs.



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# CP Regulation in OTC States



- Most OTC States have adopted 2006 update of OTC Model Rule (except VT)
- NH adopted 2014 OTC CP Rule in 2014
- DE adopted 2014 OTC CP Rule (effective February 11, 2016)
- Maryland proposing to adopt 2014 OTC CP rule in early 2017 – effective 2018
- OTC petitioned the EPA to update the 1998 federal rule to create consistent national standards
  - EPA has not taken any action



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# Background – MD Existing Regulation

- Applies to sale or manufacture of consumer products for use in Maryland
- MD Regulations COMAR 26.11.32 adopted in 2003 and updated in 2007
- Based on Ozone Transport Commission (OTC) model rules
- Regulations require consumer products to meet specific requirements:
  - VOC concentration limits for 80 categories and subcategories
  - Administrative requirements for labeling and reporting

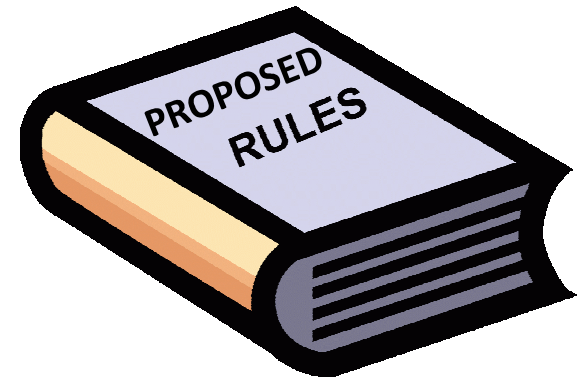


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# Maryland's Proposed Regulation

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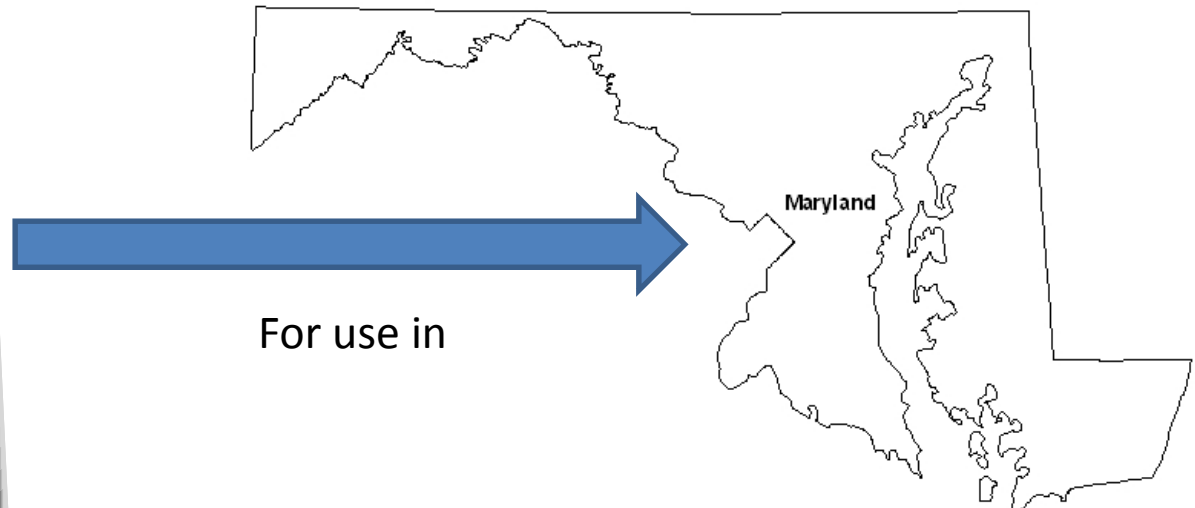
- Based on 2014 OTC CP model rule
  - Developed using standards adopted in California in 2009
  - Revised 2012 OTC CP model rule
- Updates the current regulation 26.11.32
  - Refines definitions for certain CP categories
  - Establishes VOC standards for 11 new CP categories
  - Strengthens VOC standards for 14 CP categories
  - New requirements for multi-purpose solvents and paint thinners
  - Includes toxics prohibitions
- Part of Maryland State Implementation Plan (SIP) for VOC



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# Proposed Regulation - Applicability

- Applies to any person who, on or after January 1, 2018....



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# Proposed Regulation - Exemptions

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- Does not apply to...
  - Consumer products sold, supplied, offered for sale, or manufactured intended for shipment and use outside of the State; and if manufacturers or distributors have taken precautions to not distribute in the State
    - Other exemptions listed in Regulation .01, sections C – F.
  - Additional new exemption: *“Artist’s solvent/thinner packaged and sold in a container equal to or less than 34 fluid ounces”*
    - Artist’s solvent/thinner means any liquid product, labeled to meet ASTM D4236-94 (2011), as amended, Standard Practice for Labeling Art Materials for Chronic Health Hazards, which is labeled to reduce the viscosity of, or remove, art coating compositions or components



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# CP Categories and Standards

New Consumer Products Categories and VOC Standards*	
CP Category	Maximum VOC limit by weight
Dual Purpose Air Freshener/Disinfectant, Aerosol	60
Anti-static Product, Aerosol	80
Artist's Solvent/Thinner	3
Automotive Windshield Cleaner	35
Disinfectant, Aerosol	70
Disinfectant, Non-aerosol	1

\*as of January 1, 2018



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# CP Categories and Standards

New Consumer Products Categories and VOC Standards* (cont.)	
CP Category	Maximum VOC limit by weight
Multi-Purpose Solvent	3
Paint Thinner	3
Sanitizer, Aerosol	70
Sanitizer, Non-aerosol	1
Temporary Hair Color, Aerosol	55

\*as of January 1, 2018



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# CP Categories and Standards

Revised Consumer Products Categories and VOC Standards*		
CP Category	<u>Current</u> Max VOC limit by weight	<u>Proposed</u> Max VOC limit by weight
Adhesive -Construction, Panel and Floor	15	7
Automotive Brake Cleaner <sup>1</sup>	45	10
Bathroom and Tile Cleaner, All Other Forms <sup>2</sup>	5	1
Carburetor or Fuel-Injection Air Intake Cleaner	45	10
Engine Degreaser, Aerosol	35	10
Floor Polish/Wax, Resilient Flooring Material	7	1
Floor Polish/Wax, Non-Resilient Flooring Material	10	1

\*as of January 1, 2018

<sup>1</sup>Category changed to Brake Cleaner

<sup>2</sup>Subcategory changed to Non-aerosol



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# CP Categories and Standards

## Revised Consumer Products Categories and VOC Standards\* (cont.)

CP Category	<u>Current</u> Max VOC limit by weight	<u>Proposed</u> Max VOC limit by weight
Furniture Maintenance Products, All Other Forms <sup>3</sup>	7	3
General Purpose Cleaner, Aerosol	10	8
General Purpose Degreaser, Aerosol	50	10
Laundry Starch/Sizing/Fabric Finish	5	4.5
Nail Polish Remover	75	1
Oven or Grill Cleaner, Liquid <sup>3</sup>	5	4
Shaving Gel	7	4

\*as of January 1, 2018

<sup>3</sup>Subcategory changed to Non-aerosol



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# General Requirements and Standards

- New Regulation .05-1 – Requirements for Flammable and Extremely Flammable Multi-Purpose Solvent and Paint Thinner
  - Can not be sold, supplied, manufactured, offered for sale in the State effective January 1, 2018



**UNLESS:**

1. Products contain less than 1 percent by weight aromatic compound;
2. Product contains methylene chloride, perchloroethylene, or trichloroethylene in a combined amount equal to or less than 0.01% by weight; and
3. Products meet labeling requirements



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# Emission Reduction Benefits

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- Developed following the emission benefit methodology of CARB and OTC
- Total VOC reductions from OTC model rule = 63.8 tons/day in 2018, based on projected 2018 OTC population of 63.7 million
- Maryland population projection for 2018 = 6.3 million
- MD projected VOC benefits beginning in 2018 will be a reduction of 6.3 tons/day of VOC



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# Economic Impact

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- January 1, 2018 date will give manufacturers the needed time to reformulate coatings to make them compliant with the VOC content limits and make changes to product distribution channels.
- Vast majority of the consumer products affected by these amendments are already commercially available.



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# Economic Impact

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- **Cost-effectiveness (CE)**, measuring dollars per unit of emission reduction from the regulation
- Calculated from CARB survey data for recurring and non-recurring costs. See CARB Initial Statement of Reasons, Chapter VII 2006 & 2009.
- $CE_{2006}$  for various categories (general cleaner and degreaser, floor adhesive, bathroom and tile cleaner) average cost = \$2.35 per lb or **\$4,700/ton VOC reduced**
- $CE_{2009}$  for Multipurpose solvent and paint thinner category average cost = \$0.29 per lb or **\$580/ton VOC reduced**



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# Economic convert 2009 to 2018

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- **Cost-effectiveness (CE)**, measuring dollars per unit of emission reduction from the regulation, is **\$667/ton VOC reduced**

$$CE_{2018} = CE_{2009} + (CE_{2009} \times CPI_{2018})$$

Where:

$CE_{2018}$  = Maryland cost effective projection for 2018 (\$667/ton VOC reduced)

$CE_{2009}$  = CARB cost effective calculation in 2009 (\$580/ton VOC reduced)

$$CPI_{2018} = CPI_{2009-2015} + CPI_{2016-2018}$$

Where:

$CPI_{2018}$  = Consumer Price Index for 2018 (0.15)

$CPI_{2009-2015}$  = Consumer Price Index for 2009-2015 (0.12)\*

$CPI_{2016-2018}$  = Consumer Price Index Projection for 2016-2018 (0.03)\*\*

\*Information from the Bureau of Labor Statistics

\*\*Calculated using average CPI index increase



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