

# Work Group Meeting for Mothballs, Denatured Alcohol, Paint Remover or Stripper, Scented Candle, and Pet Care Products

June 13, 2019



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## Work Group Outline

**Category Order:** Mothballs, Denatured Alcohol, Paint Remover or Stripper, Scented Candle, and Pet Care Products

**For Each Category Presented**

- Category Definition
- Category Overview
  - Companies
  - Products
  - VOC Content
  - Product Weighted Maximum Incremental Reactivity (PWMIR)
  - Total Organic Gas Maximum Incremental Reactivity (TOG MIR)
- Product Groups
- VOC Breakdown
- Possible VOC Thresholds
  - Regulatory Pathways
- Discussion and Questions

**What's Next?**

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**Email questions during the meeting to:  
[josh.berghouse@arb.ca.gov](mailto:josh.berghouse@arb.ca.gov)**

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**Mothballs**

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## Mothballs

- Defined in the regulation within the “Flying Bug Insecticide” category definition: For the purposes of the “Flying Bug Insecticide” definition only, “moth-proofing product” means a product whose label, packaging, or accompanying literature indicates that the product is designed to protect fabrics from damage by moths, but does not indicate that the product is suitable for use against flying insects or other flying arthropods.
- Emissions from the category consists primarily of 1,4 dichlorobenzene (para-dichlorobenzene)
- Confidentiality issues preclude further characterization of the survey data at this time

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## Mothballs

- Mothballs can be made from naphthalene, 1,4 dichlorobenzene, and/or camphor
- 1,4-Dichlorobenzene is a VOC and a toxic air contaminant (TAC) that is currently prohibited in two consumer products categories (Air Freshener (solid) and Toilet/Urinal Care Products) (2005)
- 1,4-Dichlorobenzene has lower ozone forming potential (0.18) compared to camphor (0.49) and naphthalene (3.34)
- Naphthalene is flammable
- Camphor is a VOC

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## **Discussion & Questions**

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## **Denatured Alcohol**

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## Denatured Alcohol

- For survey purposes, products reported as “denatured alcohol” were included in the category
- Most product labels contained additional use claims for cleaning glass or as a fuel

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## Category Overview Denatured Alcohol

Number of Companies

• 5

Number of Products

• 16

VOC Emissions (tpd)

• 1.70

Sales Weighted  
Average VOC

• 97.44%

PWMIR

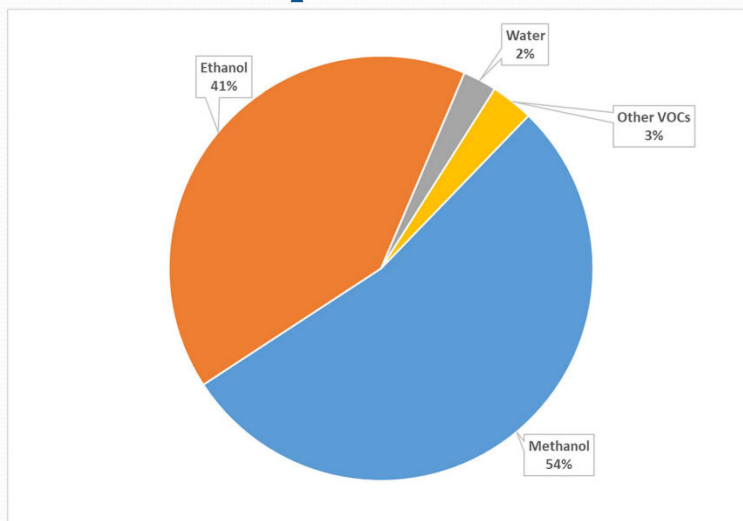
• 1.04

TOG MIR

• 1.07

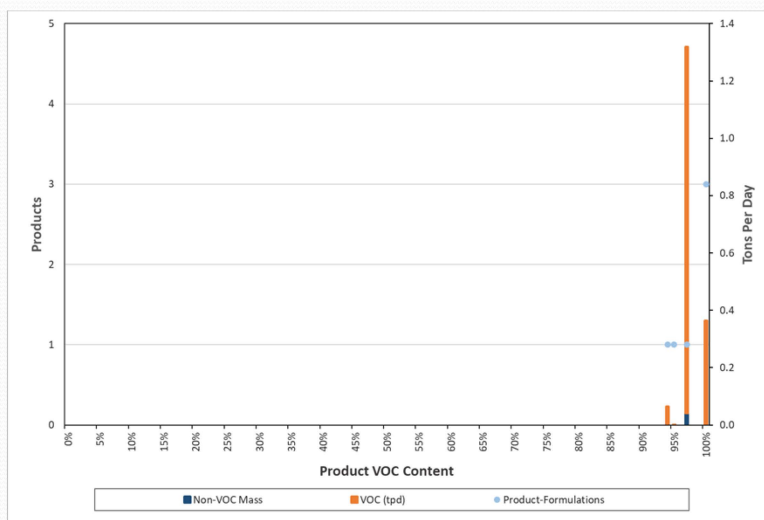
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## Denatured Alcohol Speciation



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## Denatured Alcohol VOC Histogram



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## **Discussion & Questions**

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## **Paint Remover or Stripper**

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## Paint Remover or Stripper

- “Paint Remover or Stripper” means any product designed to strip or remove paints or other related coatings, by chemical action, from a substrate without markedly affecting the substrate. “Paint Remover or Stripper” does not include “Multi- purpose Solvent,” paint brush cleaners, products designed and labeled exclusively as “Graffiti Remover,” and hand cleaner products that claim to remove paints and other related coatings from skin.
- 50% VOC limit effective on January 1, 2005

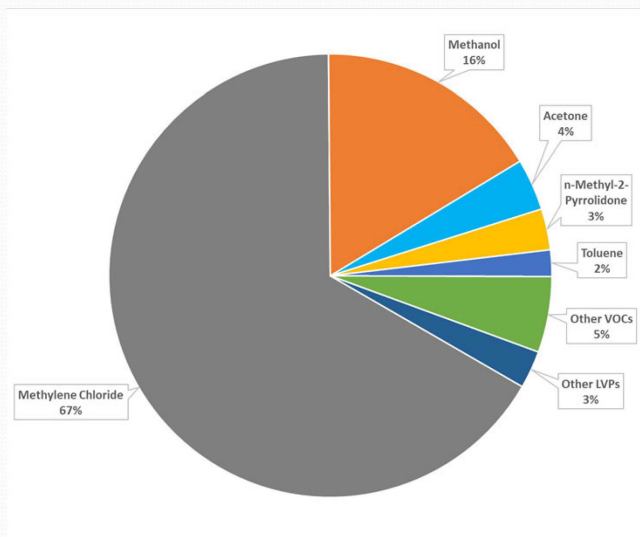
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## Category Overview Paint Remover or Stripper

Number of Companies	• 32
Number of Products	• 181
VOC Emissions (tpd)	• 0.93
Methylene Chloride Emissions (tpd)	• 2.32
Sales Weighted Average VOC	• 24.81%
PWMIR	• 0.47
TOG MIR	• 0.51

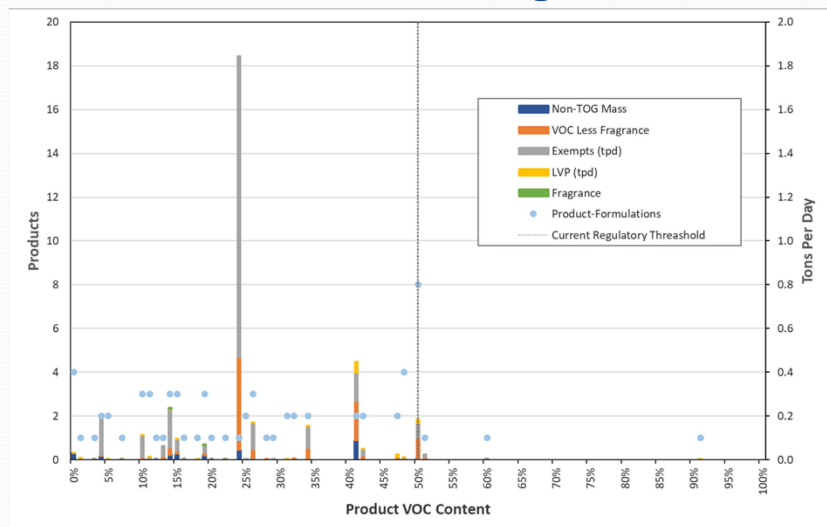
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## Paint Remover or Stripper TOG Speciation



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## Paint Remover or Stripper VOC Content Histogram



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## **U.S. EPA Prohibition on Methylene Chloride (MeCl) in Paint Stripper**

- MeCl exposure can cause death due to nervous system exposure
  - Less harmful substitutes available
- U.S. EPA announced ban on March 15, 2019
  - Does not apply to workplace uses
  - Action eliminates MeCl, an Exempt VOC, as a compliance option to meet paint stripper VOC content limits
- DTSC Safer Consumer Product Program also evaluating MeCl use in paint stripper

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## **Discussion & Questions**

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## Scented Candles

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### Category Overview Scented Candles

Number of Companies	• ~100
Number of Products	• ~22000
Category VOC Range	• 0.03% – 18%
Average VOC	• 4.9%
VOC Emissions (tpd)	• 1.67
TOG MIR	• 5.51
Product Sales (tpd)	• ~34

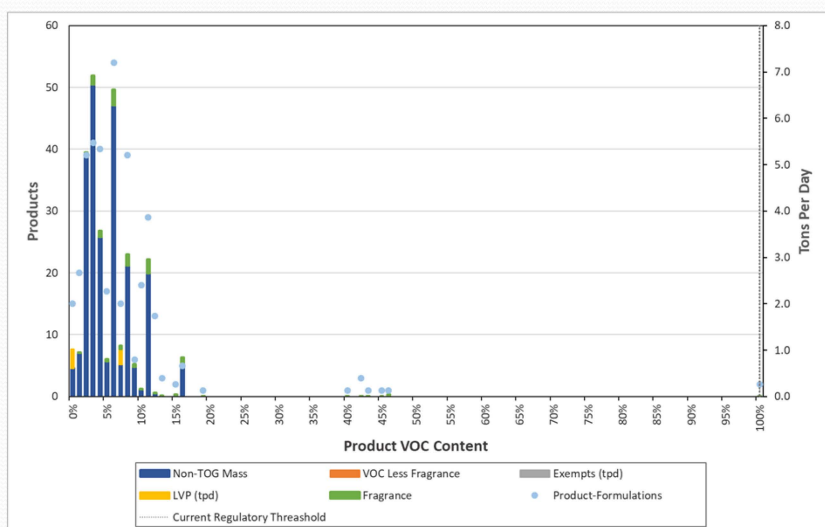
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## Scented Candles Working Definition

- Category is not currently defined in the Consumer Products regulation
- Working definition: An ignitable wick embedded in wax, or another flammable solid substance such as tallow that provides light and fragrance.

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## Scented Candle VOC Content Histogram



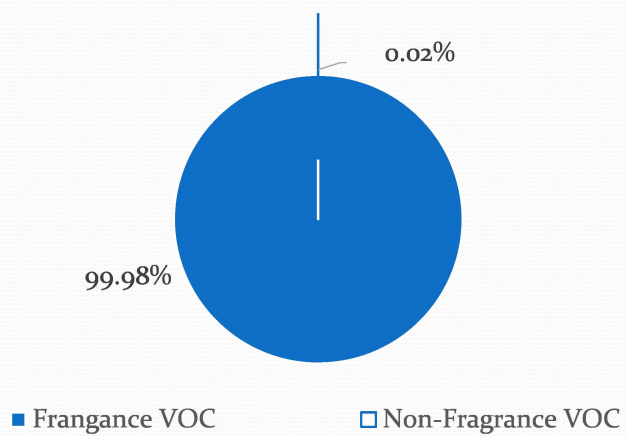
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## Scented Candles Product Ingredients

- Wax or Tallow
- Fragrance
- Wick

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## Scented Candle VOC Speciation



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## Scented Candles Possible VOC Thresholds

Possible VOC Limit	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
VOC Tons Per Day Reduced	1.36	1.07	0.82	.63	.48	.34	.25	0.18	.13	.10
Complying (Product-Formulations)	10%	20%	31%	42%	47%	62%	66%	77%	78%	83%
Complying (Mass)	6%	21%	41%	52%	54%	74%	77%	86%	88%	88%

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## Discussion & Questions

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## Pet Care Products

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### Pet Care Products Category Overview

Number of Companies	• 24
Number of Products	• ~480
Category VOC Range	• 0.01% – .6%
VOC Emissions (tpd)	• 0.71
Average VOC	• .12%
TOG MIR	• 4.92
Product Sales (tpd)	• ~650

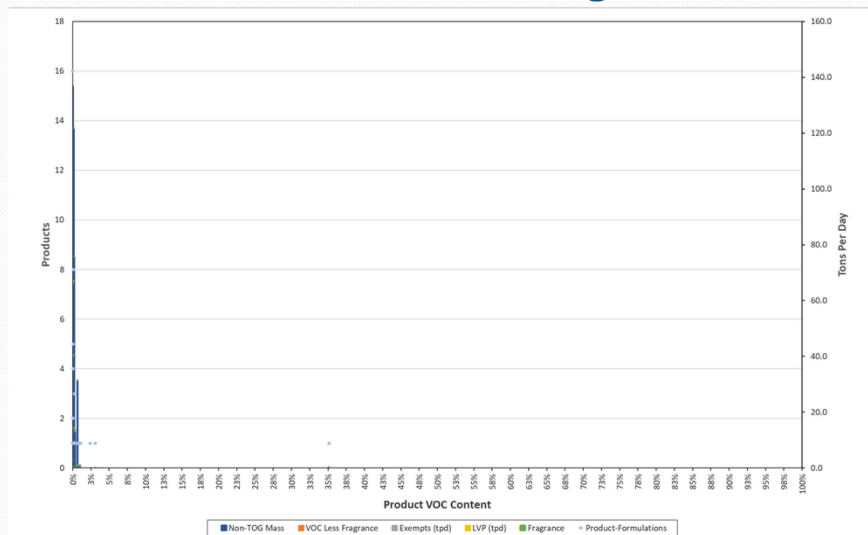
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## Pet Care Products Working Definition

- Category not currently defined in the consumer products regulation
- Mostly Pet Litter
- Working definition: Granulated solid placed in a container to absorb pet waste

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## Pet Care Products VOC Content Histogram



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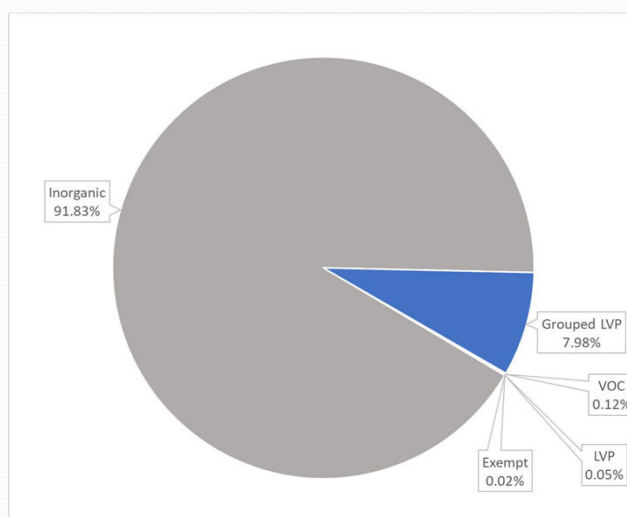


## Pet Care Products Product Composition

- Granulated Solid
- Fragrance

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## Pet Care Products Product Speciation



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## Discussion & Questions

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### What's Next?

- Summer 2019: Continue topic-specific work groups
- Ongoing: Meet with interested stakeholders
- Fall 2019: Public workshop to identify and quantify emissions benefits of regulatory options
- Late 2019/Early 2020: Additional public workshops as needed
- Late 2020: Proposed regulatory amendments for Board consideration

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## **Consumer Products Program Contacts**

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