

# Regulatory Strategies Work Group Webinar for:

- ❖ Aerosol Air Freshener
- ❖ Laundry Detergent and Fabric Softener
- ❖ Non-Aerosol Glass Cleaner
- ❖ Aerosol Cooking Spray
- ❖ Floor Wax Stripper
- ❖ Paint Remover or Stripper
- ❖ Aerosol Crawling Bug Insecticide
- ❖ Charcoal Lighter Material
- ❖ Hand Sanitizer

October 17, 2019  
10:00am-1:00pm





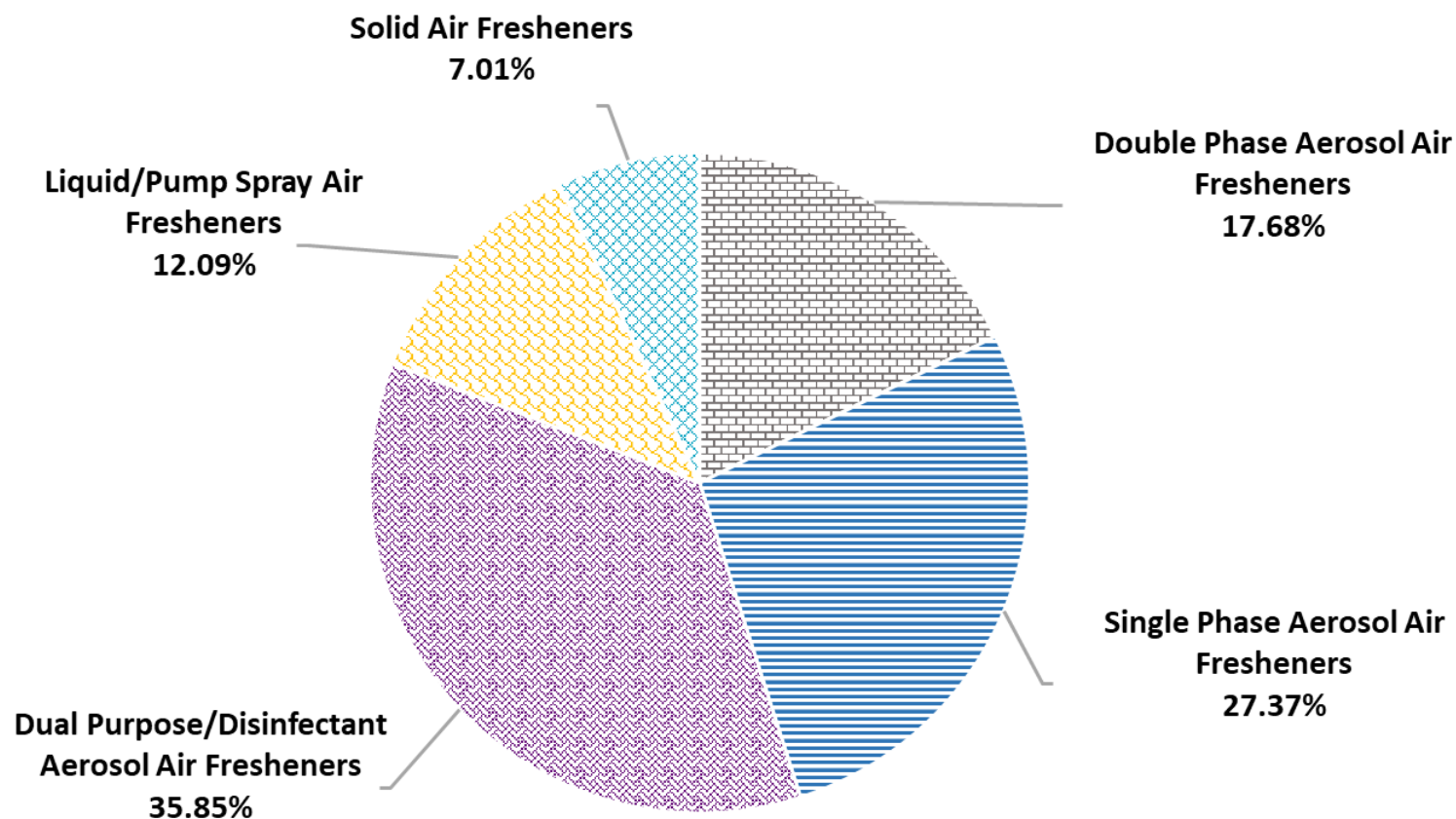
# **Aerosol Air Fresheners**



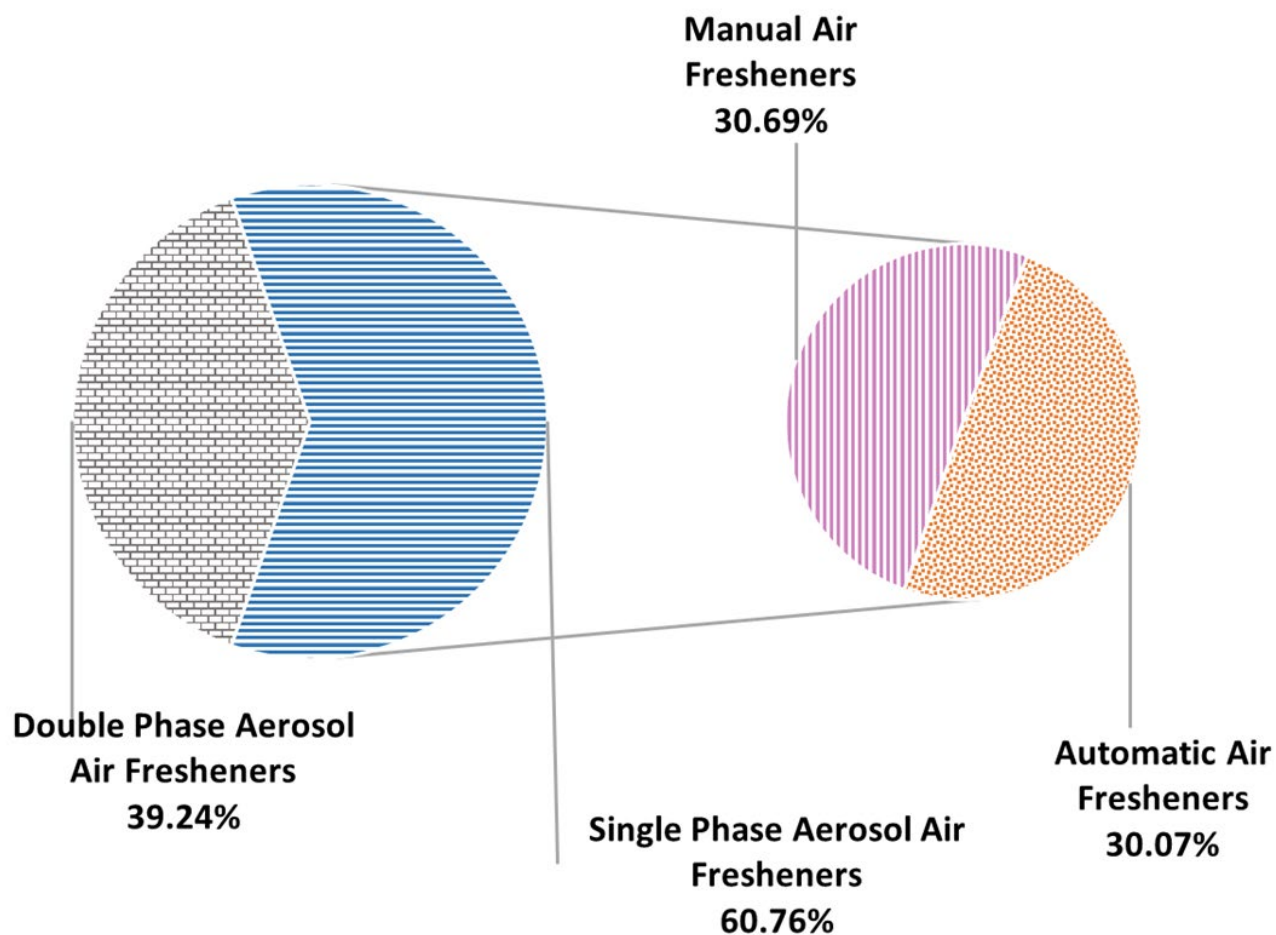
# Air Freshening Categories Second Workgroup Discussion:

- ❖ Double Phase Aerosol Air Fresheners
- ❖ Single Phase Aerosol Air Fresheners
  - ❖ Manual Aerosol Air Fresheners
  - ❖ Automatic Aerosol Air Fresheners

# Air Freshener Category Percentage of VOC Emissions



# Aerosol Air Freshener Category Percentage of VOC Emissions





# **Double Phase Aerosol Air Freshener**

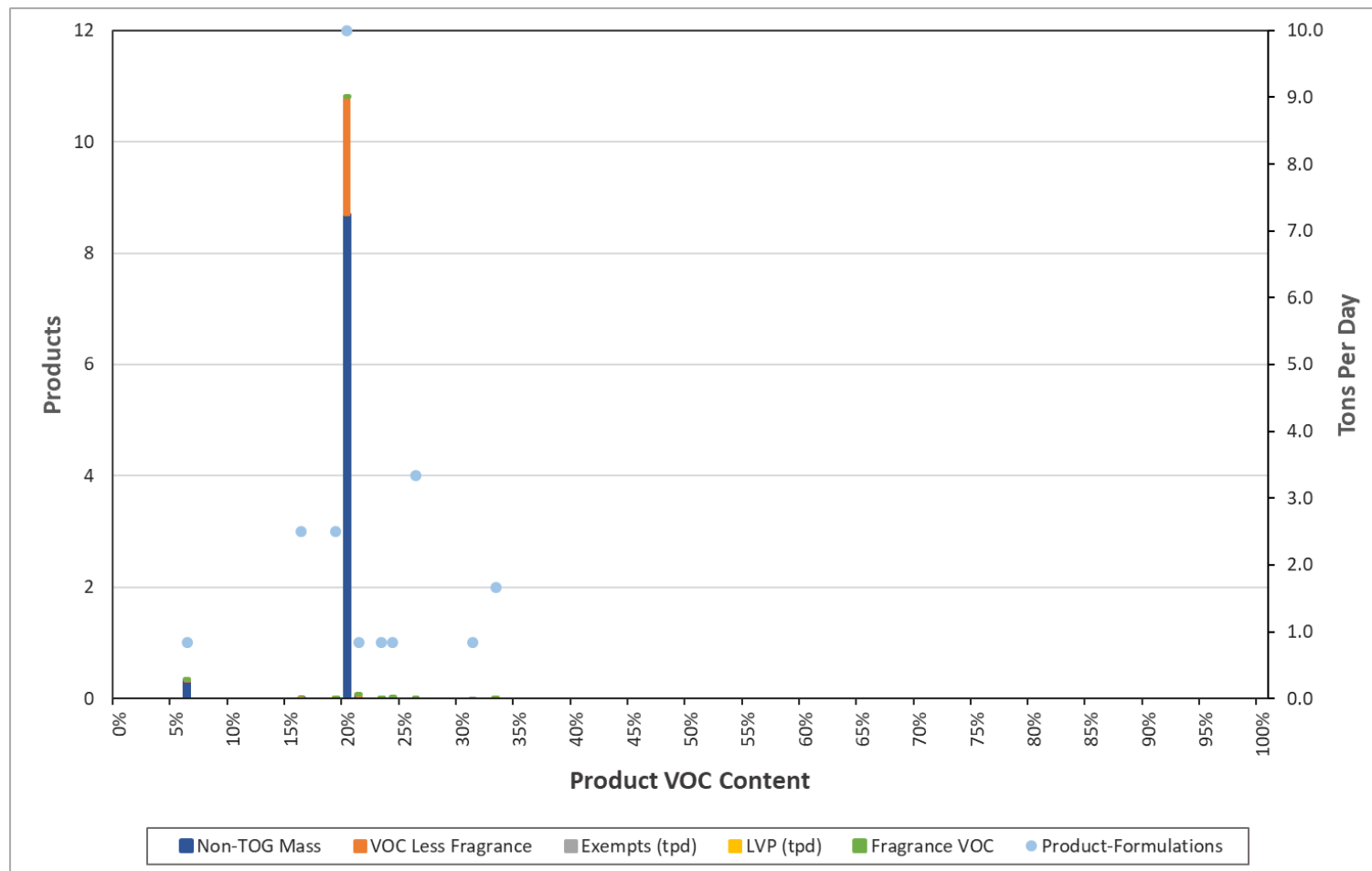


# Category Overview:

## Double Phase Aerosol Air Freshener

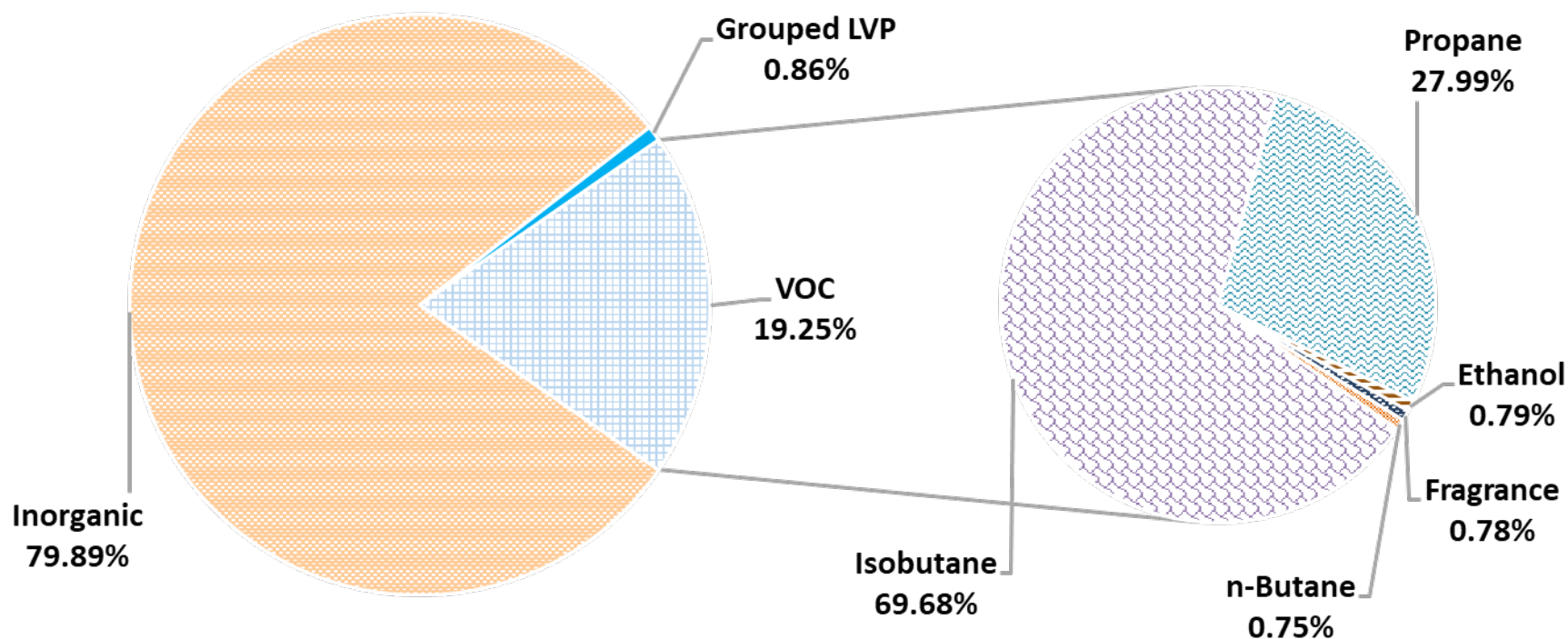
- ❖ **“Air Freshener”** means any product including, but not limited to, liquids, semisolids, solids, aerosol or pump sprays, wicks, wipes, diffusers, powders, or crystals, designed or labeled for the purpose of masking odors, or freshening, cleaning, scenting, or deodorizing the air. “Air Freshener” does not include products that are used on the human body, products that function primarily as cleaning products as indicated on a product label, “Odor Remover/Eliminator,” or “Toilet/Urinal Care Product.”
- ❖ **“Double Phase Aerosol Air Freshener”** means an aerosol **“Air Freshener,”** with the liquid contents in two or more distinct phases, that requires the product container be shaken before use to mix the phases, producing an emulsion.
- ❖ VOC Limit at 20% effective December 31, 2012

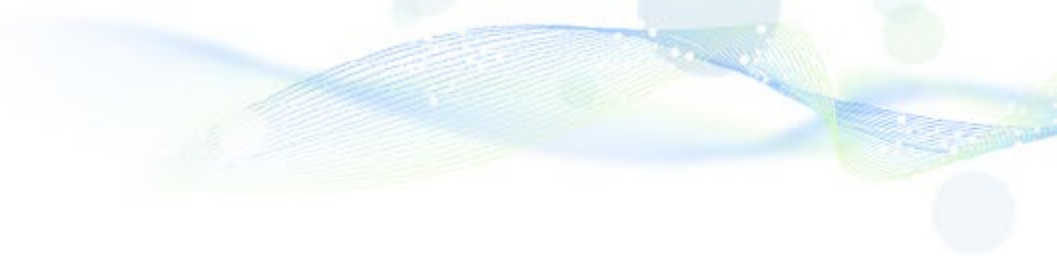
# Product Groups VOC Content: Double Phase Aerosol Air Fresheners





# Speciation and VOC Breakdown: Double Phase Aerosol Air Fresheners





# **Manual Single Phase Air Freshener**

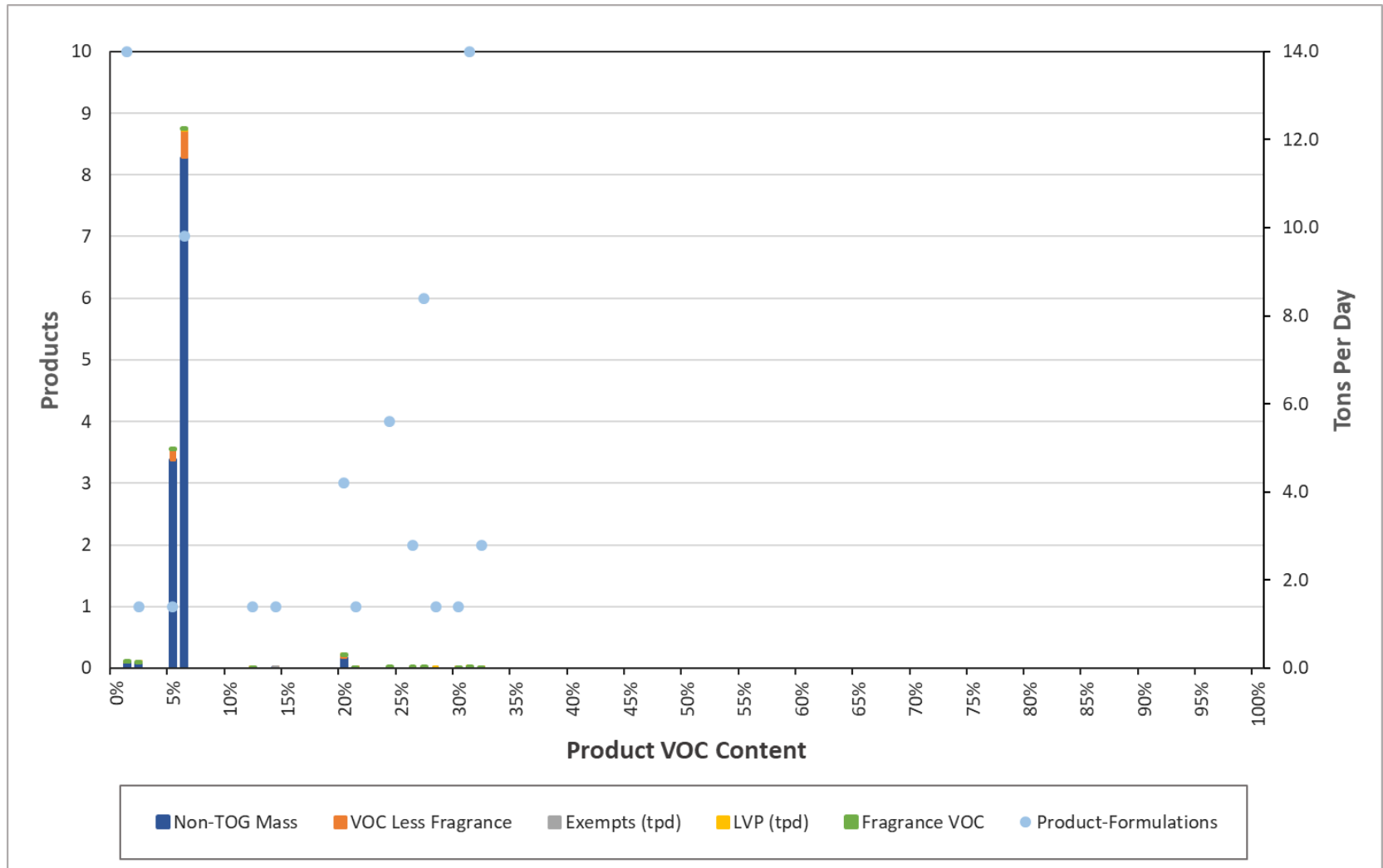


# Category Overview:

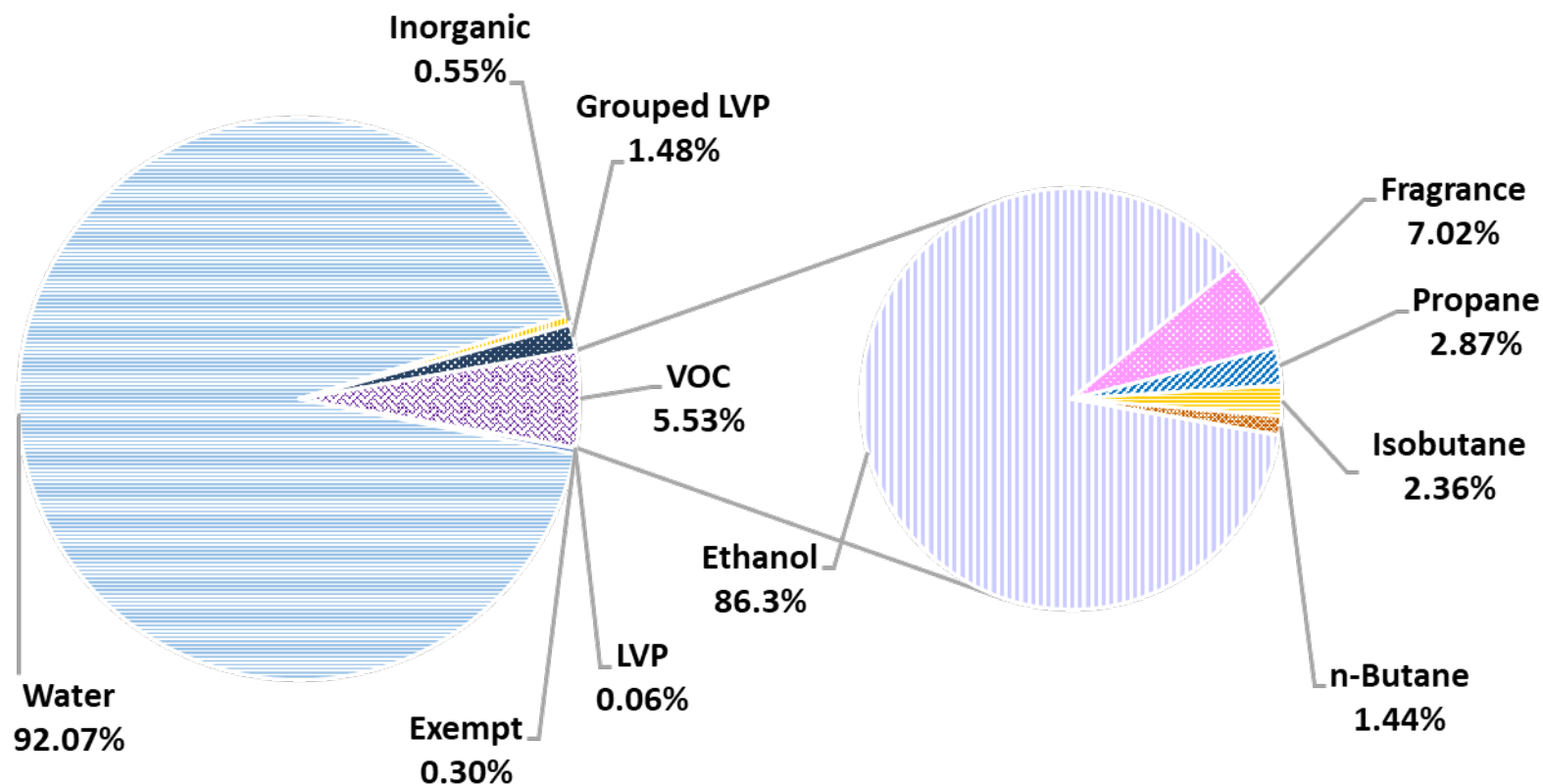
## Manual Single Phase Aerosol Air Fresheners

- ❖ **“Single Phase Aerosol Air Freshener”** means an aerosol **“Air Freshener”** with the liquid contents in a single homogenous phase which does not require that the product container be shaken before use.
- ❖ VOC Limit of 30% effective January 1, 1996

# Product Groups VOC Content: Manual Single Phase Aerosol Air Fresheners



# Speciation and VOC Breakdown: Manual Single Phase Aerosol Air Fresheners





# **Manual Aerosol Air Fresheners**

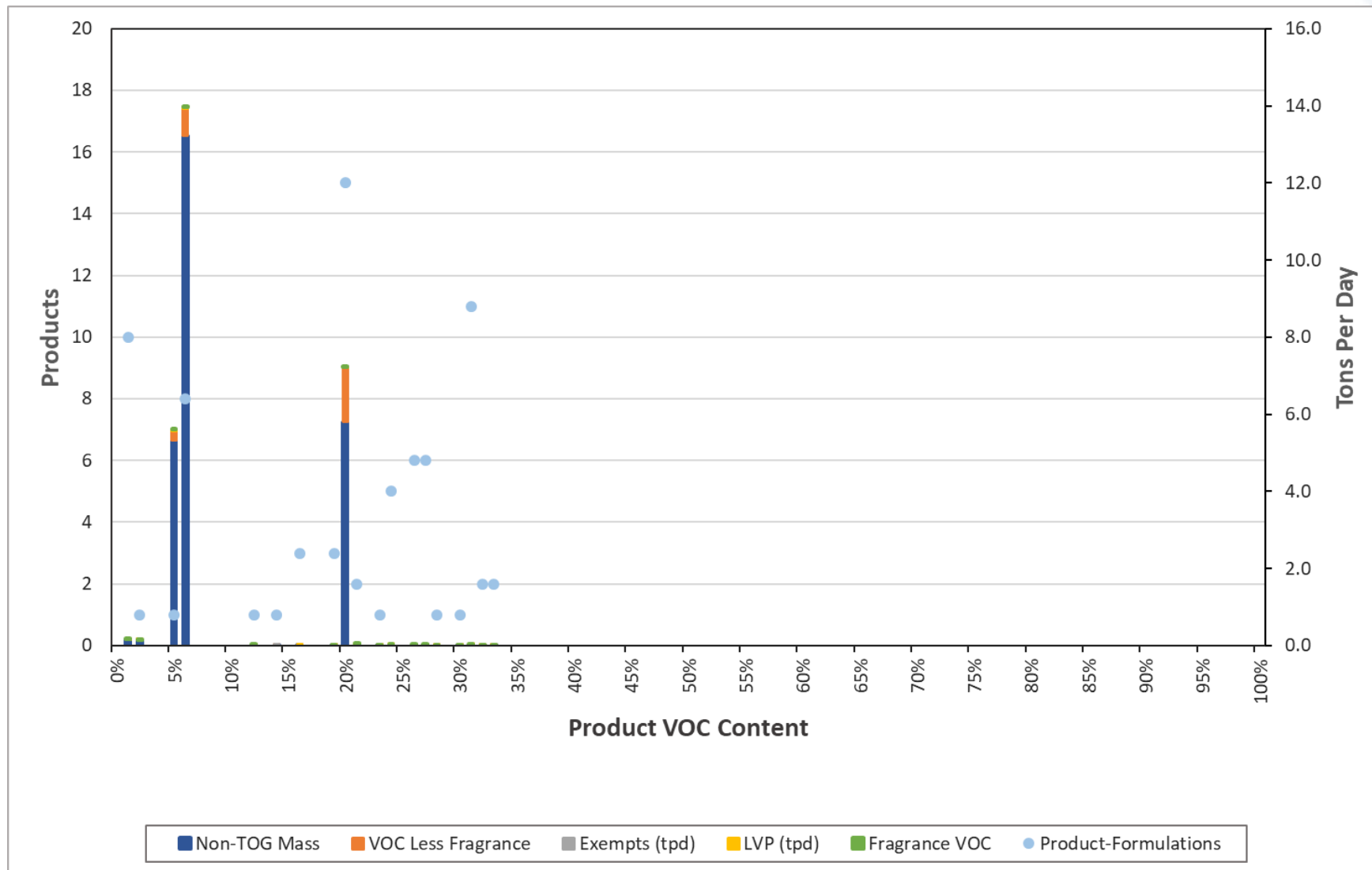


## Category Overview:

### Manual Aerosol Air Fresheners

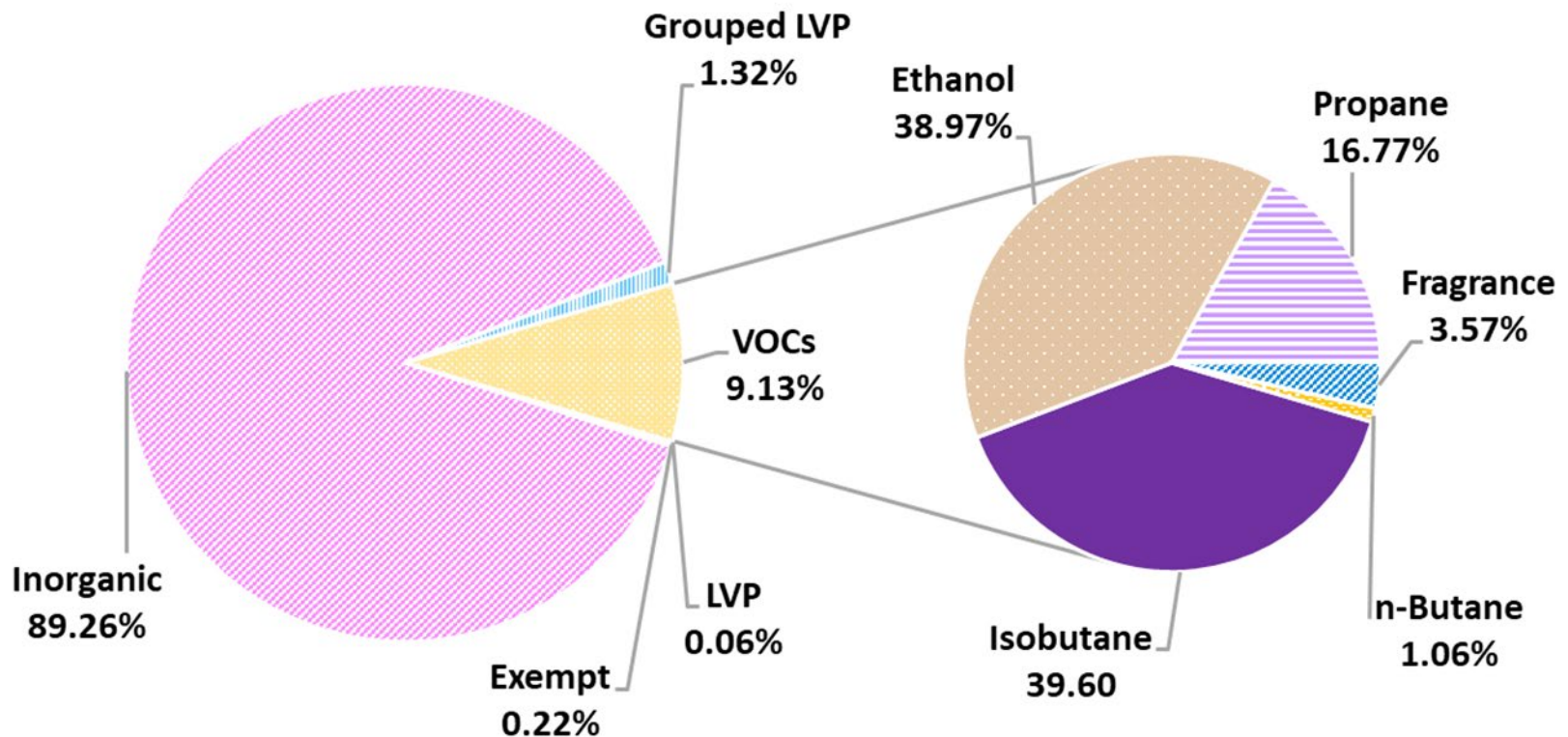
❖ **“Manual Aerosol Air Freshener (working definition)”** means an “Air Freshener” substance enclosed under pressure and able to be released manually, as a fine spray, typically by means of a propellant gas or compressed air.

# Product Groups VOC Content: Manual Aerosol Air Fresheners





# Speciation and VOC Breakdown: Manual Aerosol Air Fresheners



# Possible VOC Thresholds: Manual Aerosol Air Fresheners

Manual Aerosol Air Fresheners	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold
VOC	18%	15%	10%	5%
VOC Tons Per Day Reduced	0.15	0.37	0.73	1.20
Complying Market Share (Product-Formulations)	31%	31%	26%	19%
Complying Market Share (Mass)	73%	73%	73%	29%
Number of Companies	6	5	5	3
Number of Products	108	107	107	26



# **Discussion & Questions**



# **Automatic Aerosol Air Fresheners**



## Category Overview:

### Automatic Aerosol Air Fresheners

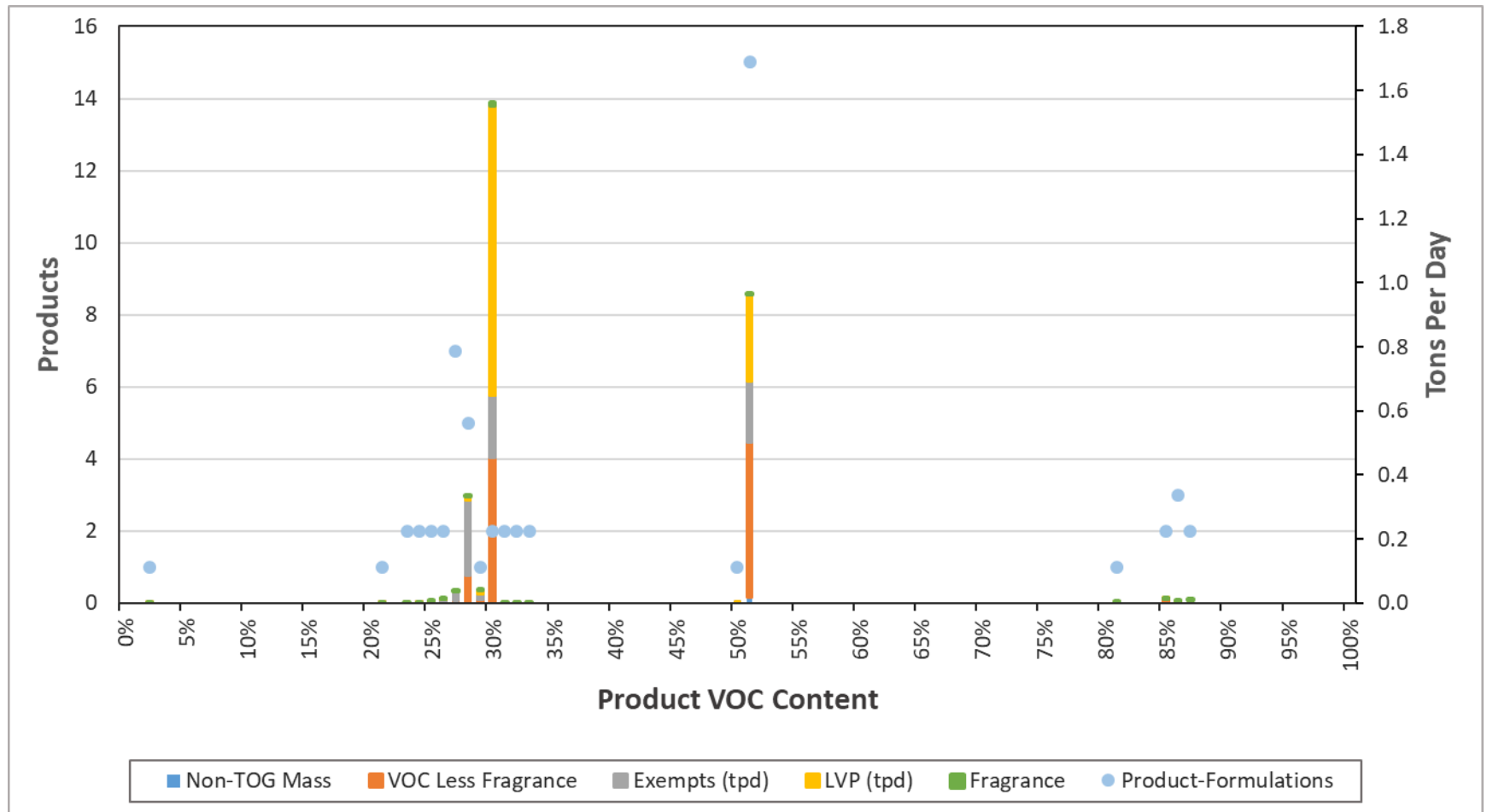
- ❖ *“Single Phase Aerosol Air Freshener” means an aerosol “Air Freshener” with the liquid contents in a single homogenous phase which does not require that the product container be shaken before use.*
- ❖ *“ Automatic Aerosol Air Freshener (working definition)” is an “Air freshener” designed to release the scent at a set time, or under preset conditions which periodically spray in order to keep the air fresh.*



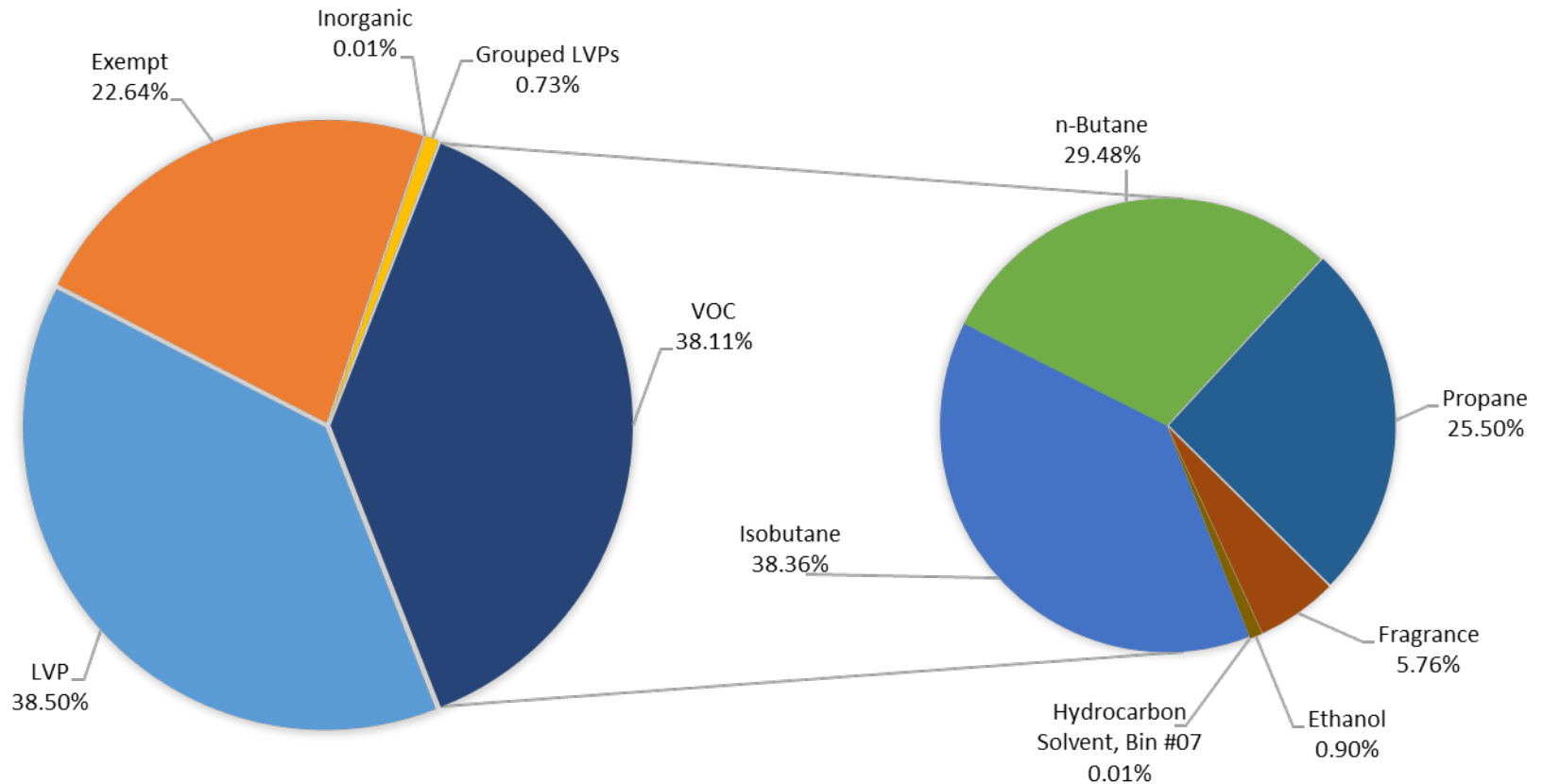
## Category Summary: Automatic Aerosol Air Fresheners

<b>Number of Companies</b>	29
<b>Number of Products</b>	571
<b>Sales (tpd)</b>	3
<b>VOC Mass (tpd)</b>	0.92
<b>SWA VOC (%)</b>	38.6%
<b>TOG MIR (gO<sub>3</sub>/gTOG)</b>	0.7

# Category VOC Content: Automatic Aerosol Air Fresheners



# Speciation and VOC Breakdown: Automatic Aerosol Air Fresheners





# Potential Approaches for VOC Reductions: Automatic Aerosol Air Fresheners

## ❖ First Approach

- ❖ Regulate automatic device to reduce spray frequency and manual functionality
- ❖ Common device frequencies are 7.5, 9, 15, 18, 30 and 36 minutes
- ❖ A grams per minute approach

## ❖ Second Approach

- ❖ Regulate amount of product sprayed per actuation
- ❖ Common valve sizes used are 25 and 60 microliters
- ❖ A grams per actuation approach

## ❖ Third Approach

- ❖ Leave products at the current regulated 30% VOC standard for the category.



# Discussion & Questions



# **Laundry Detergent and Fabric Softener**

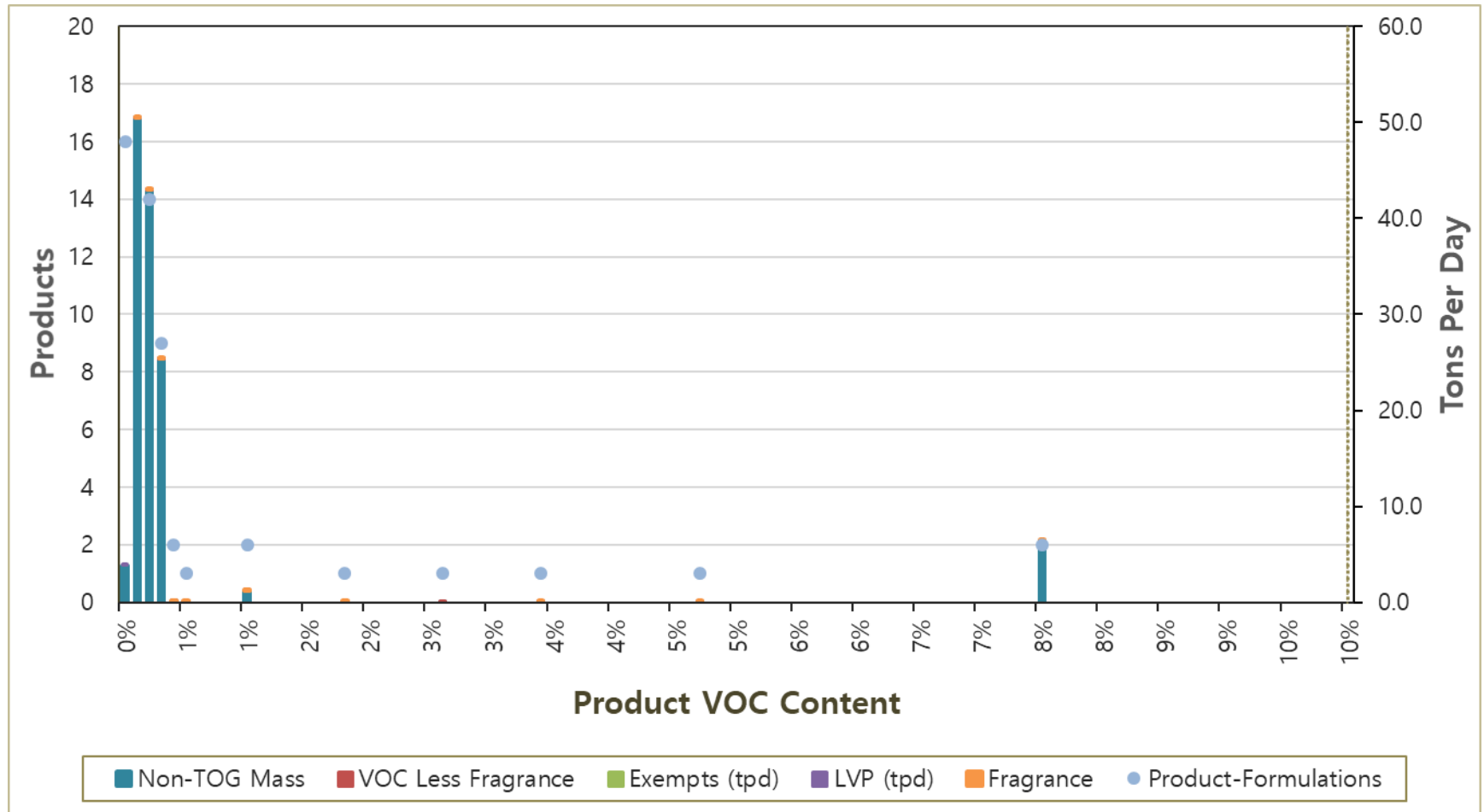


# Category Overview:

## Laundry Detergent

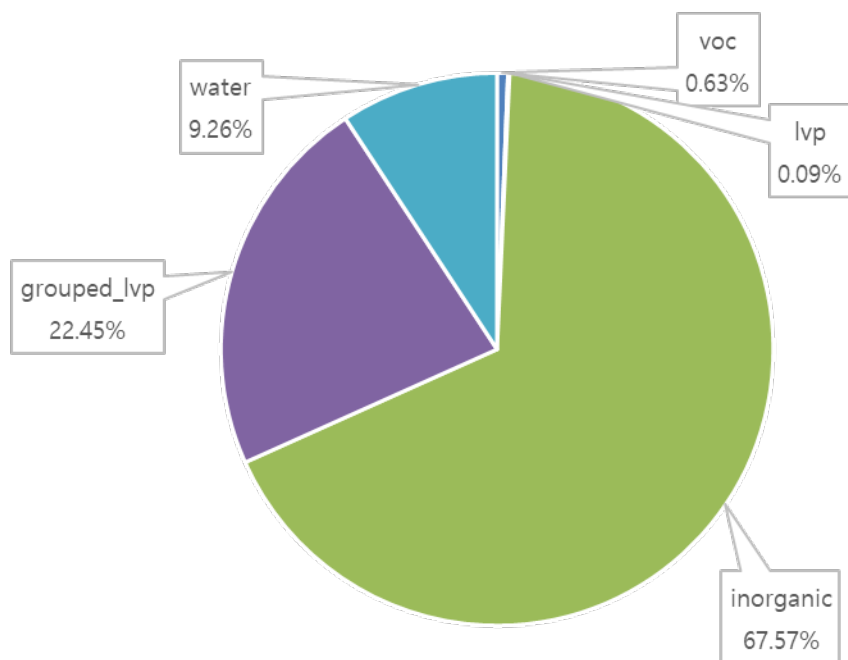
- ❖ Currently unregulated.
- ❖ “Laundry Detergent” means a surfactant or a mixture of surfactants with cleaning properties in dilute solutions. Laundry detergents are commonly available as powders or concentrated solutions. These substances are usually alkylbenzenesulfonates; compounds similar to soap but more soluble in hard water.
  - ❖ Solid
  - ❖ Liquid
  - ❖ Pods

# Category VOC Content: Solid Laundry Detergent

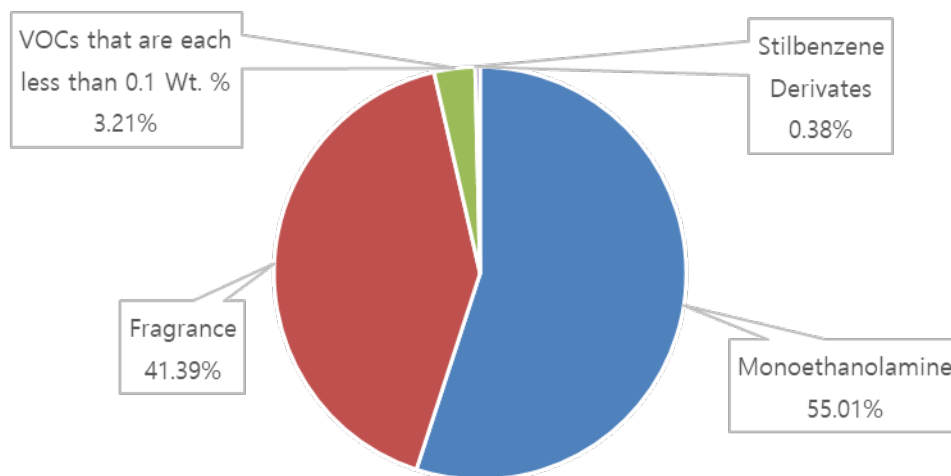


# Category Ingredient Breakdown: Solid Laundry Detergent

Solid Laundry Products



VOC in Solid Laundry Products

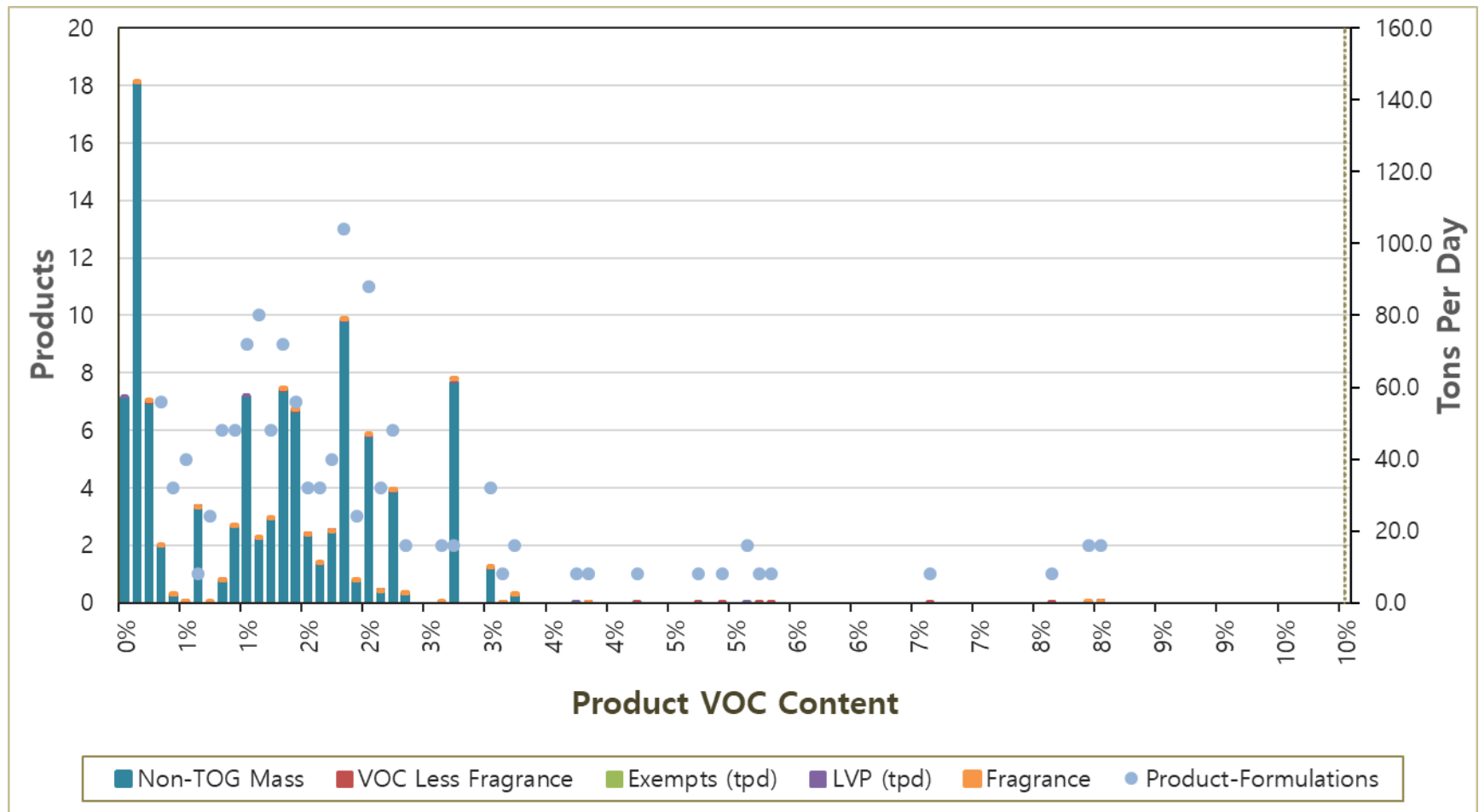


# Category Overview: Solid Laundry Detergent

## Possible VOC Thresholds

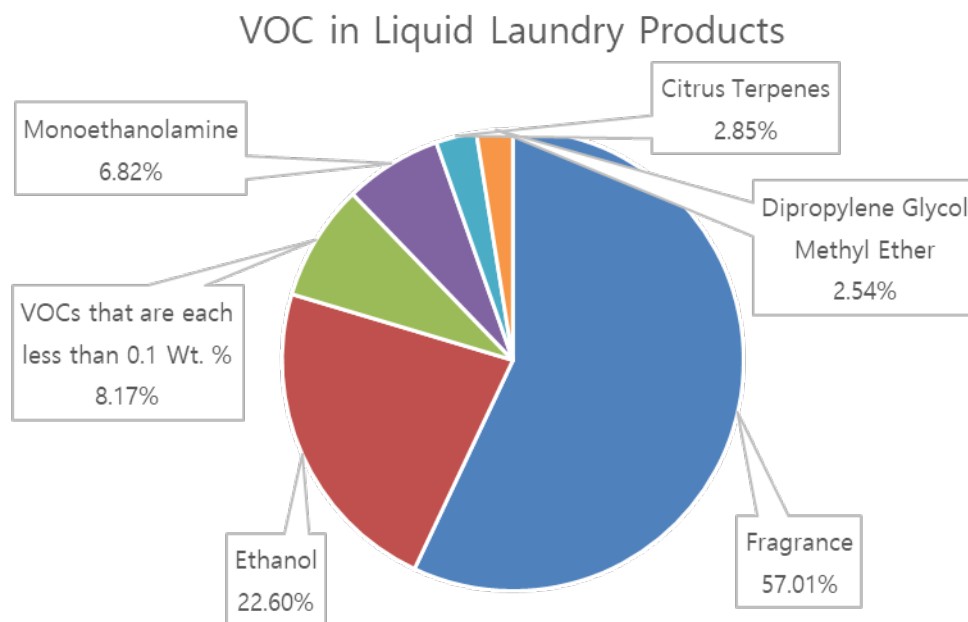
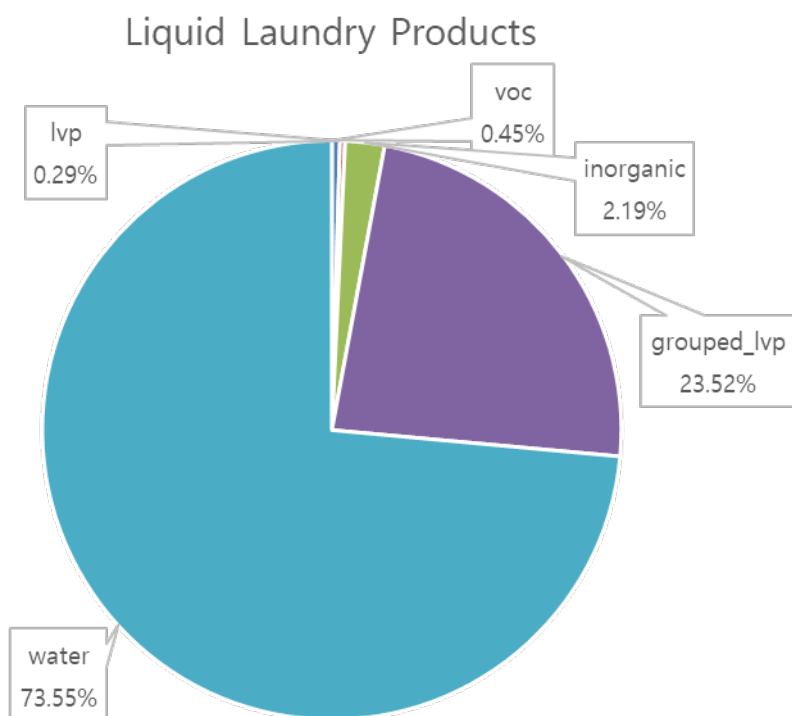
Solid Laundry Detergent	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold
Percent VOC	2%	1.5%	1%	0.5%	0%
VOC Tons Per Day Reduced	0.34	0.37	0.4	0.44	0.55
Complying Market Share (Product-Formulations)	94%	93%	93%	90%	20%
Complying Market Share (Mass)	95%	95%	95%	94%	3%
Number of Companies	26	26	26	26	14
Number of Products	283	281	277	225	42

# Category VOC Content: Liquid Laundry Detergent





# Category Ingredient Breakdown: Liquid Laundry Detergent

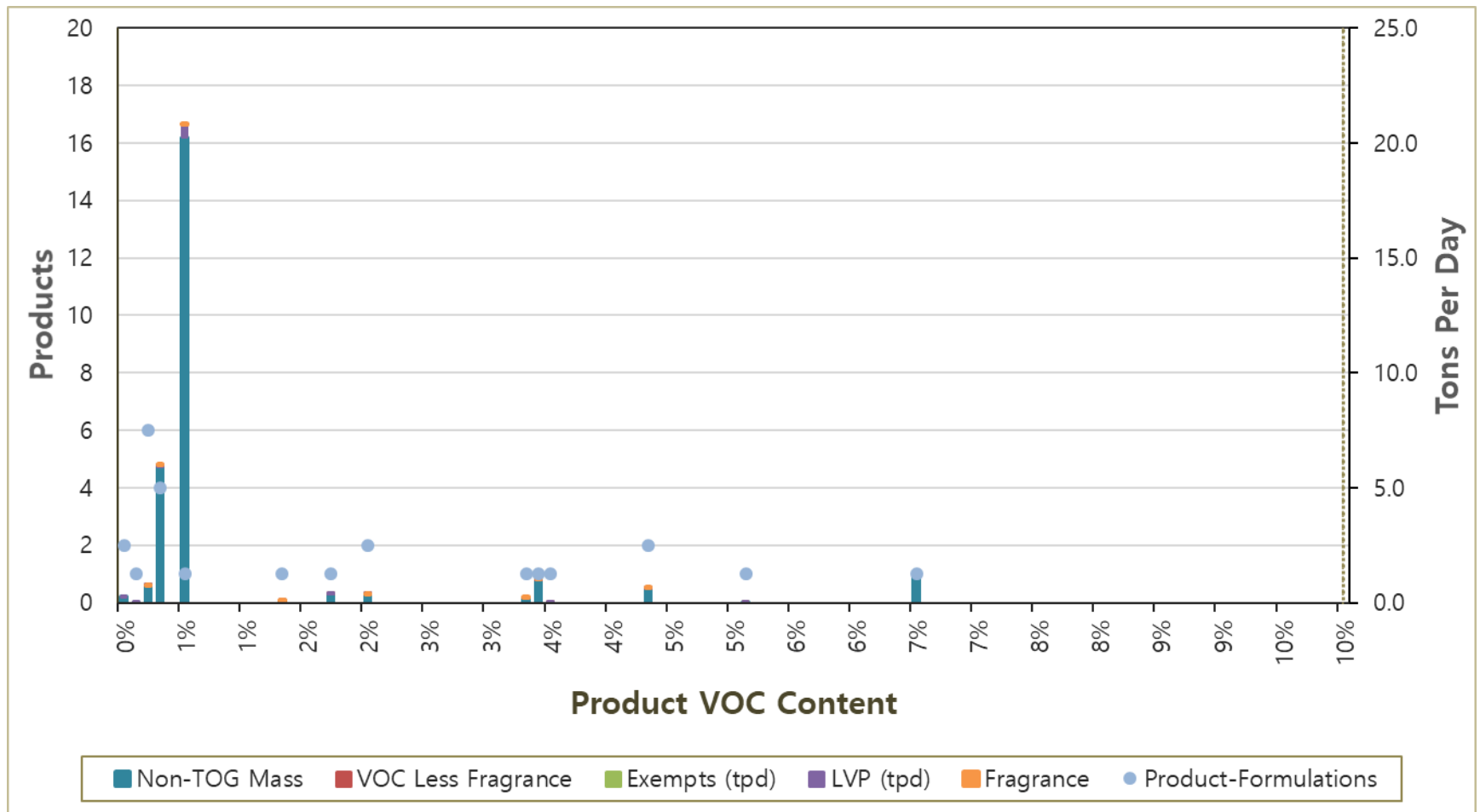


# Category Overview: Liquid Laundry Detergent

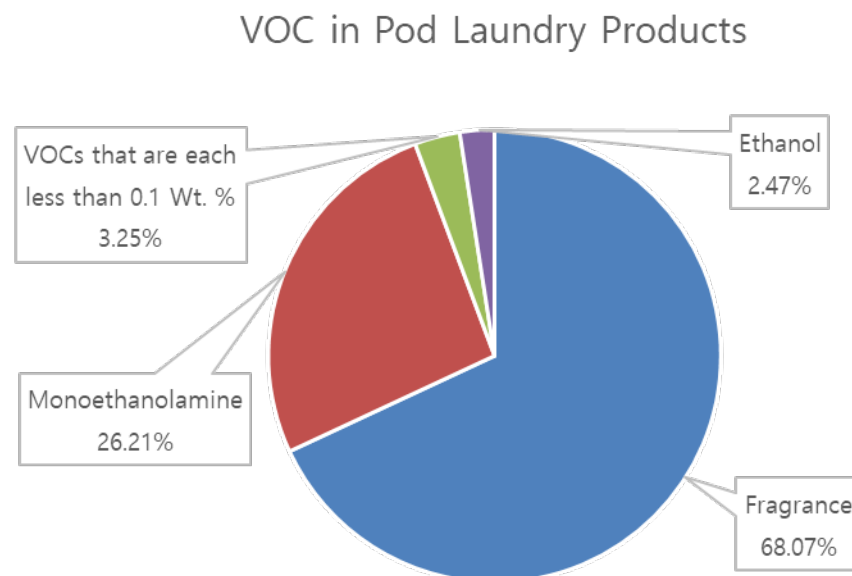
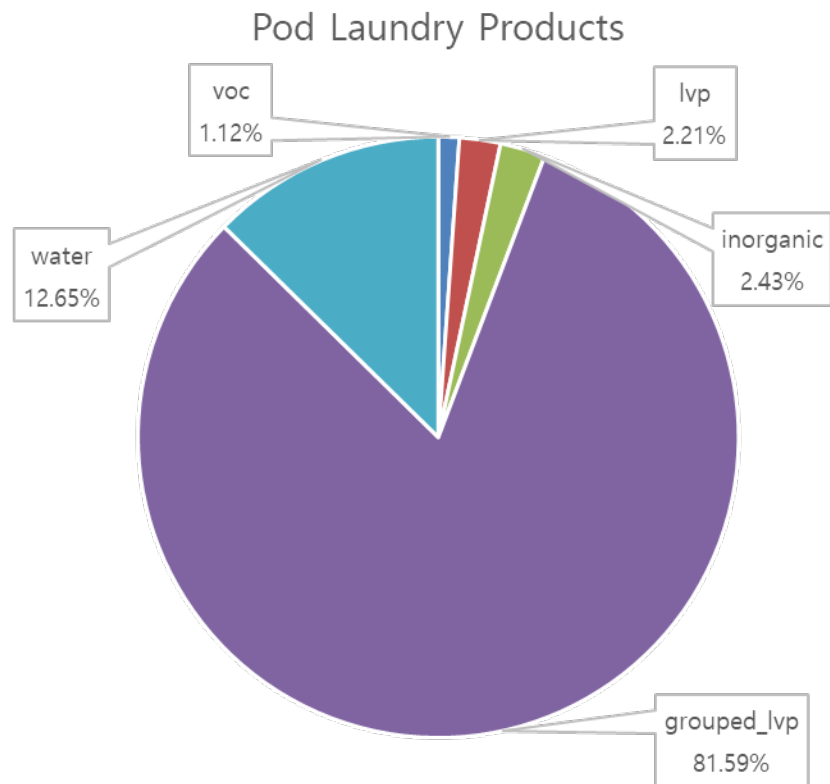
## Possible VOC Thresholds

Liquid Laundry Detergent	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold
Percent VOC	2%	1.5%	1%	0.5%	0%
VOC Tons Per Day Reduced	0.14	0.35	0.7	1.18	1.79
Complying Market Share (Product-Formulations)	86%	73%	60%	51%	18%
Complying Market Share (Mass)	87%	67%	46%	33%	7%
Number of Companies	58	55	52	46	29
Number of Products	740	597	479	372	144

# Category VOC Content: Pod Laundry Detergent



# Category Ingredient Breakdown: Pod Laundry Detergent



# Category Overview: Pod Laundry Detergent

## Possible VOC Thresholds

Pod Laundry Detergent	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold
Percent VOC	2%	1.5%	1%	0.5%	0%
VOC Tons Per Day Reduced	0.06	0.07	0.08	0.09	0.14
Complying Market Share (Product-Formulations)	72%	60%	56%	56%	8%
Complying Market Share (Mass)	90%	88%	87%	87%	1%
Number of Companies	9	9	8	5	2
Number of Products	71	68	28	18	2

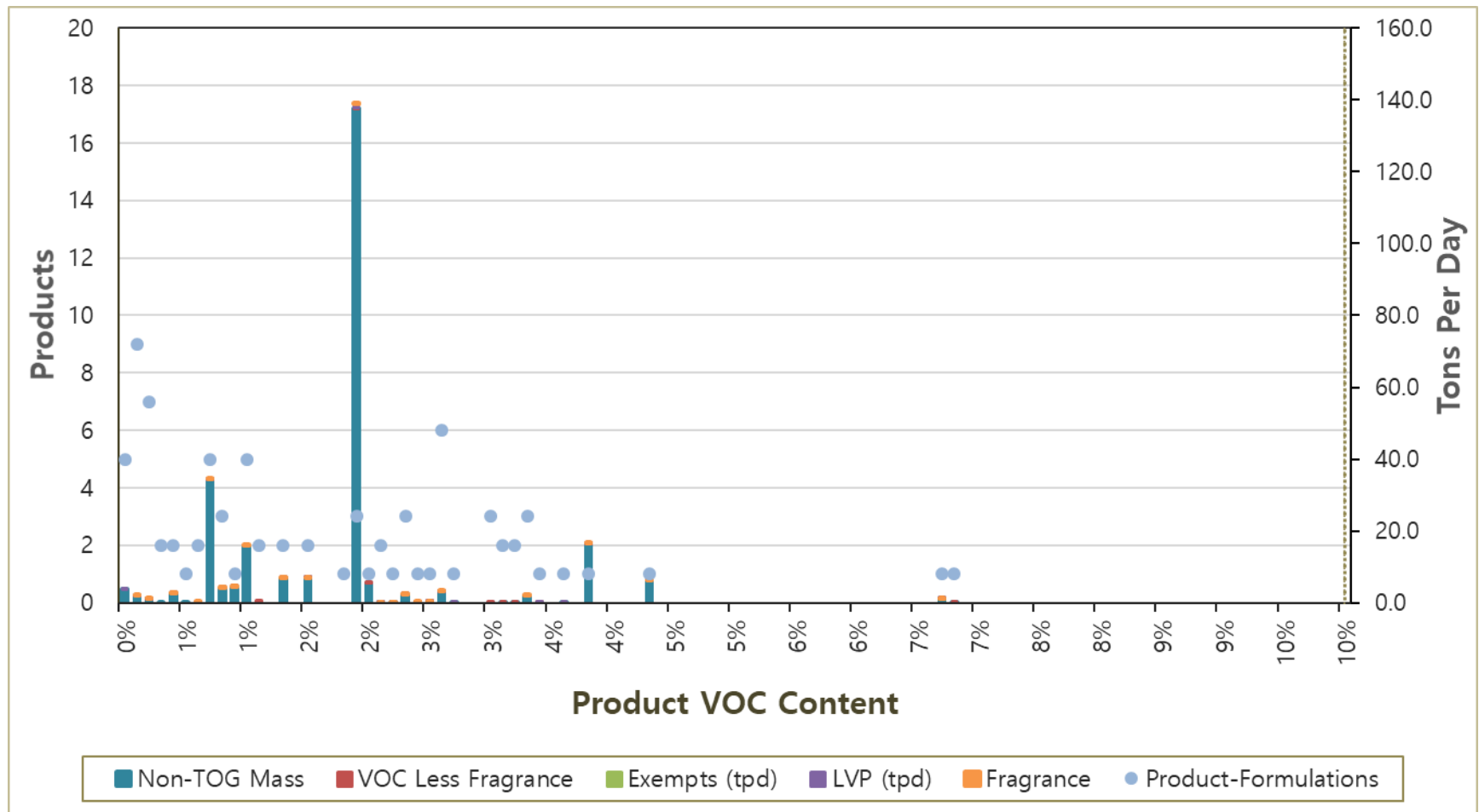


## Category Overview:

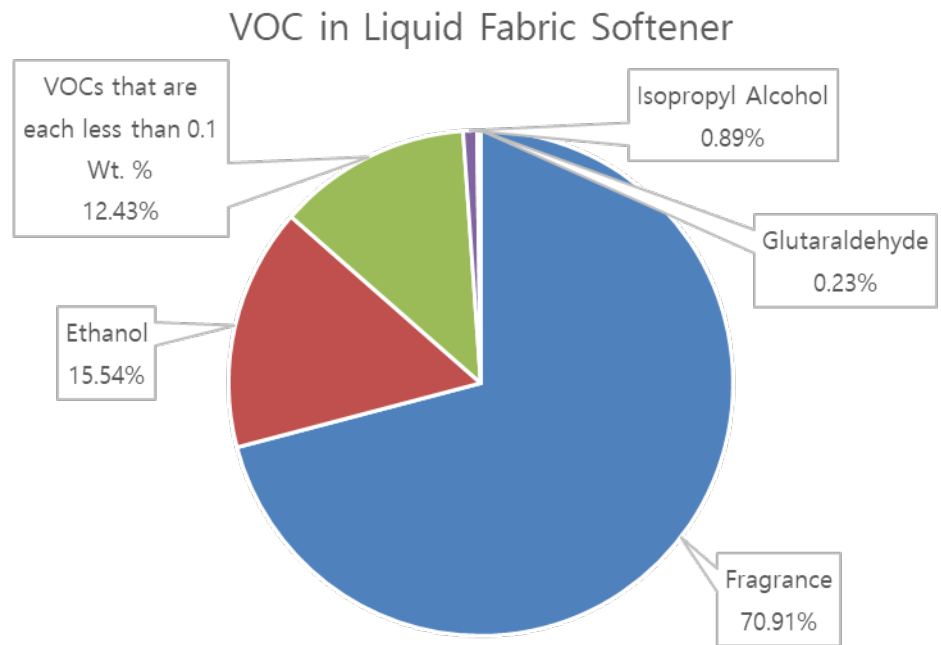
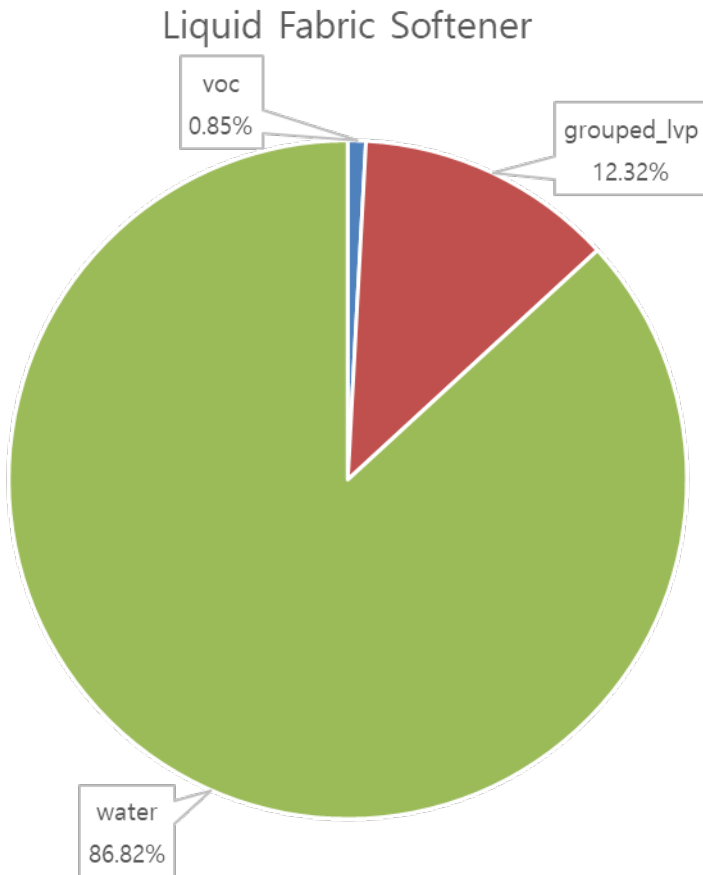
### Liquid Fabric Softener

- ❖ Currently unregulated
- ❖ “Liquid Fabric Softener” is typically applied to laundry during the rinse cycle in a washing machine, either by the machine itself or through use of a dispensing ball or similar means. Fabric softeners coat the surface of a fabric with chemical compounds that impart a softer texture.

# Category VOC Content: Liquid Fabric Softener



# Category Ingredient Breakdown: Liquid Fabric Softener





# Category Overview:

## Liquid Fabric Softener

### Possible VOC Thresholds

Liquid Fabric Softener	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold
Percent VOC	2%	1.5%	1%	0.5%	0%
VOC Tons Per Day Reduced	0.10	0.27	0.48	0.73	1.01
Complying Market Share (Product-Formulations)	63%	57%	50%	31%	6%
Complying Market Share (Mass)	88%	32%	27%	4%	2%
Number of Companies	27	27	27	19	5
Number of Products	216	131	99	40	10

# Summary:

## Laundry Detergent and Fabric Softener

Laundry Detergent	Solid Product	Liquid Product	Pod Product
Market Share	12.9%	84%	3.1%
Sales Weighted Average VOC	0.8%	1.3%	1.5%
Possible VOC Limit	1%	1%	1%

Fabric Softener	All Products
Market Share	100%
Sales Weighted Average VOC	1.6%
Possible VOC Limit	1%

- Per Dose Limit of 0.01% VOC
- Possible Total VOC Reduction of 1.66 TPD



# Discussion & Questions



# **Non-Aerosol Glass Cleaner**



# Non-Aerosol Glass Cleaner Overview:

- ❖ Definition
- ❖ Background
- ❖ Survey Results
  - ❖ Companies
  - ❖ Products
  - ❖ VOC Content
  - ❖ Product Weighted Maximum Incremental Reactivity (PWMIR)
- ❖ VOC Breakdown
- ❖ Possible VOC Thresholds
- ❖ Discussion and Questions



## Definitions

- ❖ Non-Aerosol - any product that is not an aerosol product.
- ❖ Aerosol Products - a pressurized spray system that dispenses a product but is not a pump spray.
- ❖ Glass Cleaner - a product designed or labeled for cleaning surfaces made of glass but not designed or labeled solely for optical materials used in eyeglasses, photographic, scientific, or photocopying equipment.



## Background

- ❖ Non-Aerosol Glass Cleaners are currently regulated.
- ❖ Product regulated in 2010
- ❖ Current VOC limit is 3%
- ❖ Sales of about 14 million pounds of non-aerosol products sold in 2015.
- ❖ Products in 3 forms:
  - ❖ Ready to Use
  - ❖ Concentrates
  - ❖ Wipes

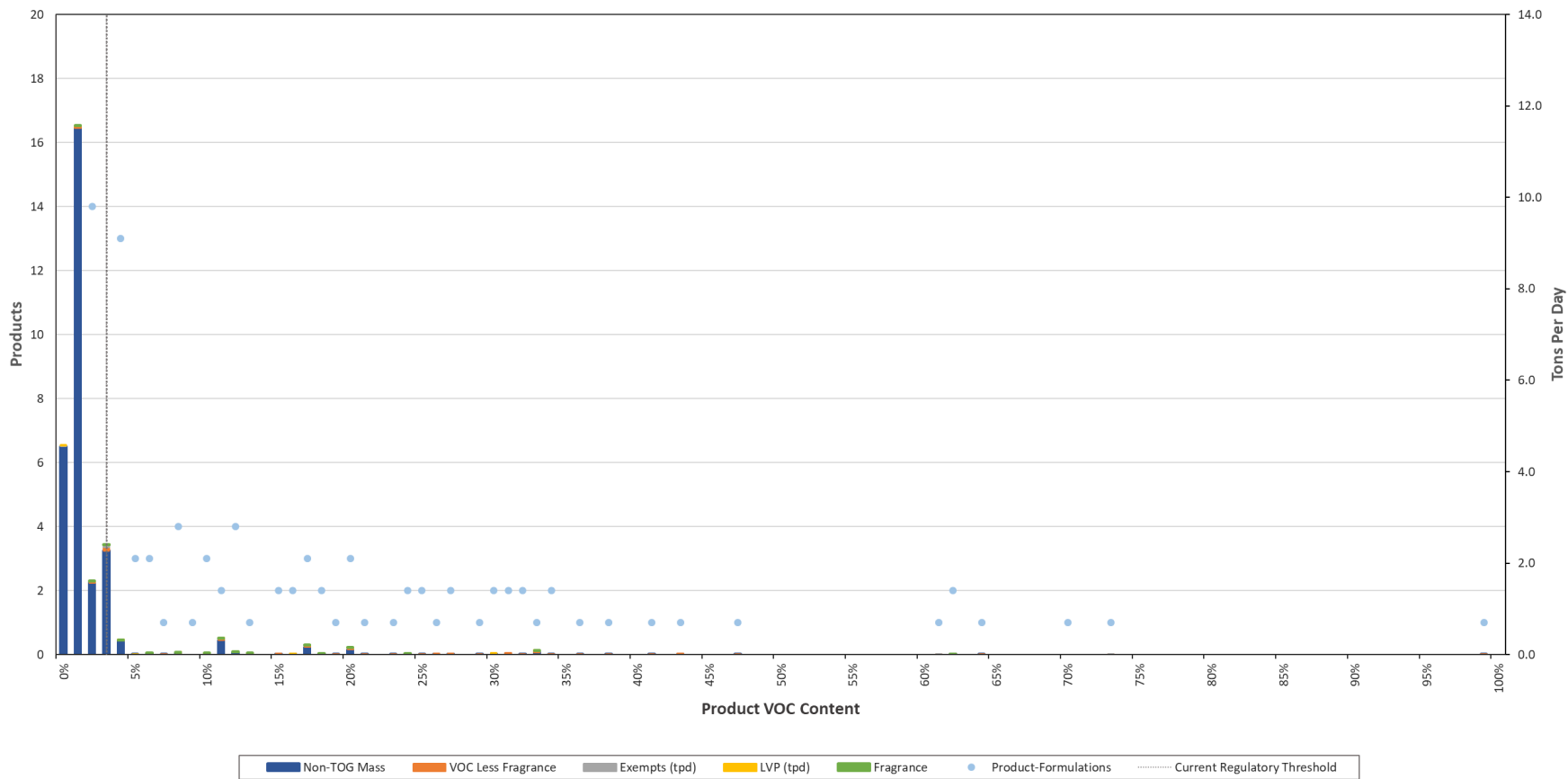


## Survey Results Summary

- ❖ Number of Companies Reporting: 100
- ❖ Number of Products Reported: 450
- ❖ Category VOC Range: 0 - 3 percent
- ❖ Average Product VOC: 1.75 percent
- ❖ Average Product Weighted MIR: .03



# Non-Aerosol Glass Cleaner Product VOC

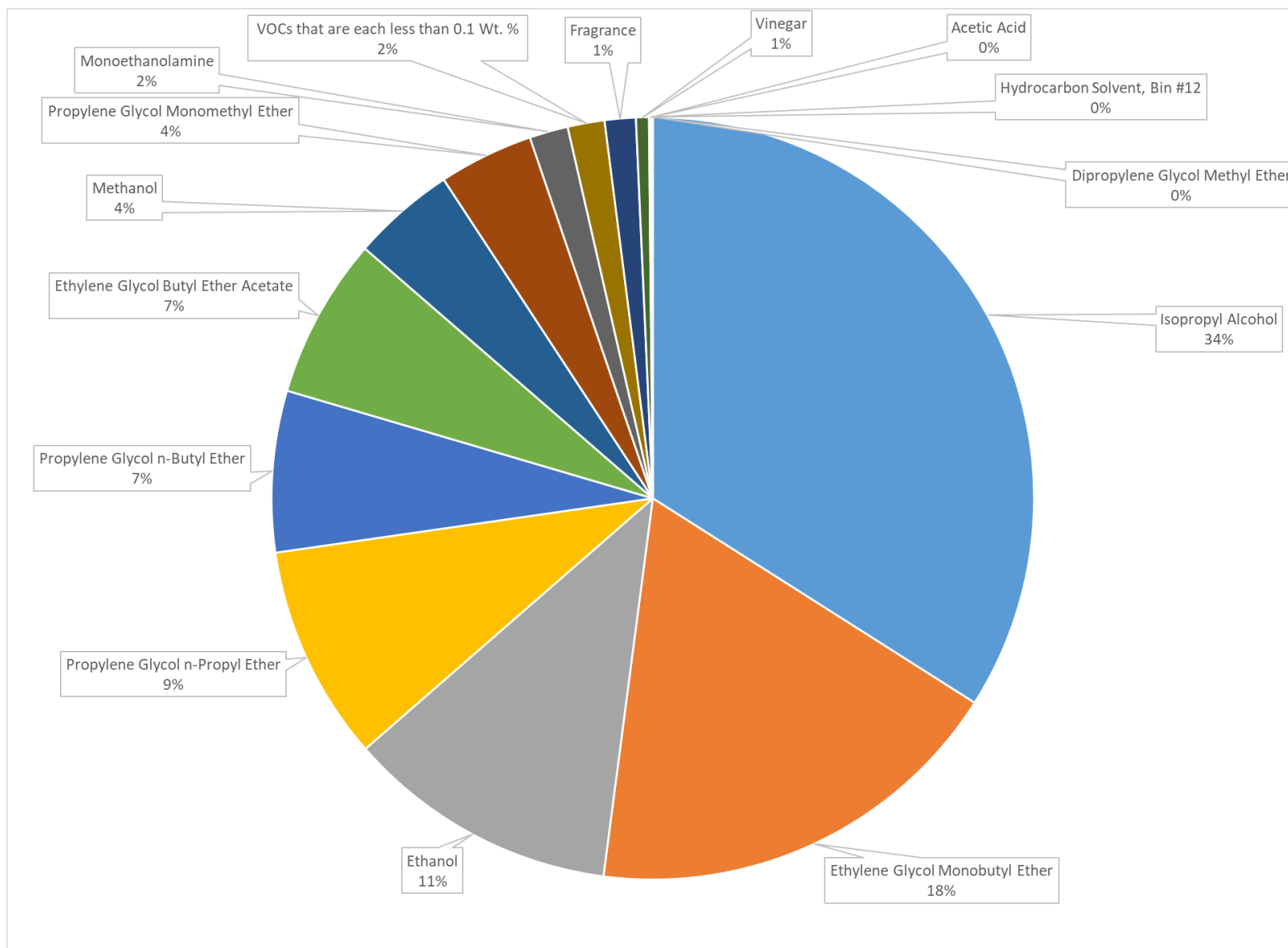




# VOC Ingredients

- ❖ Isopropyl Alcohol
- ❖ Ethylene Glycol Monobutyl Ether
- ❖ Ethanol
- ❖ Propylene Glycol n-Propyl Ether
- ❖ Propylene Glycol n-Butyl Ether
- ❖ Ethylene Glycol Butyl Ether Acetate
- ❖ Methanol
- ❖ Propylene Glycol Monomethyl Ether
- ❖ Monoethanolamine
- ❖ VOCs that are each less than 0.1 Wt. %
- ❖ Fragrance
- ❖ Vinegar/Acetic Acid

# VOC Details



## Possible VOC Limits

<b>Non-Aerosol Glass Cleaner</b>	<b>Possible Threshold</b>	<b>Possible Threshold</b>	<b>Possible Threshold</b>	<b>Possible Threshold</b>
VOC	2.00%	1.50%	1.00%	0.50%
VOC Tons Per Day Reduced	0.10	0.14	0.17	0.20
Complying Market Share (Product-Formulations)	40%	32%	32%	13%
Complying Market Share (Mass)	82%	75%	75%	21%



# Discussion & Questions



# Aerosol Cooking Spray



# Aerosol Cooking Spray Overview:

- ❖ Definition
- ❖ Background
- ❖ Survey Results
  - ❖ Companies
  - ❖ Products
  - ❖ VOC Content
  - ❖ Product Groups
- ❖ VOC Breakdown
- ❖ Discussion and Questions



## Definition

- ❖ Aerosol Products designed to reduce sticking on cooking and baking surfaces or to be applied on food, or both.





## Background

- ❖ Aerosol Products designed to reduce sticking on cooking and baking surfaces or to be applied on food, or both. Product form introduced in the early 1960s
- ❖ Product regulated in the Phase II consumer products regulation in the early 1990s
- ❖ Current limit = 1995 VOC limit of 18%
- ❖ About 6 million pounds of product sold in 2013



## Survey Results

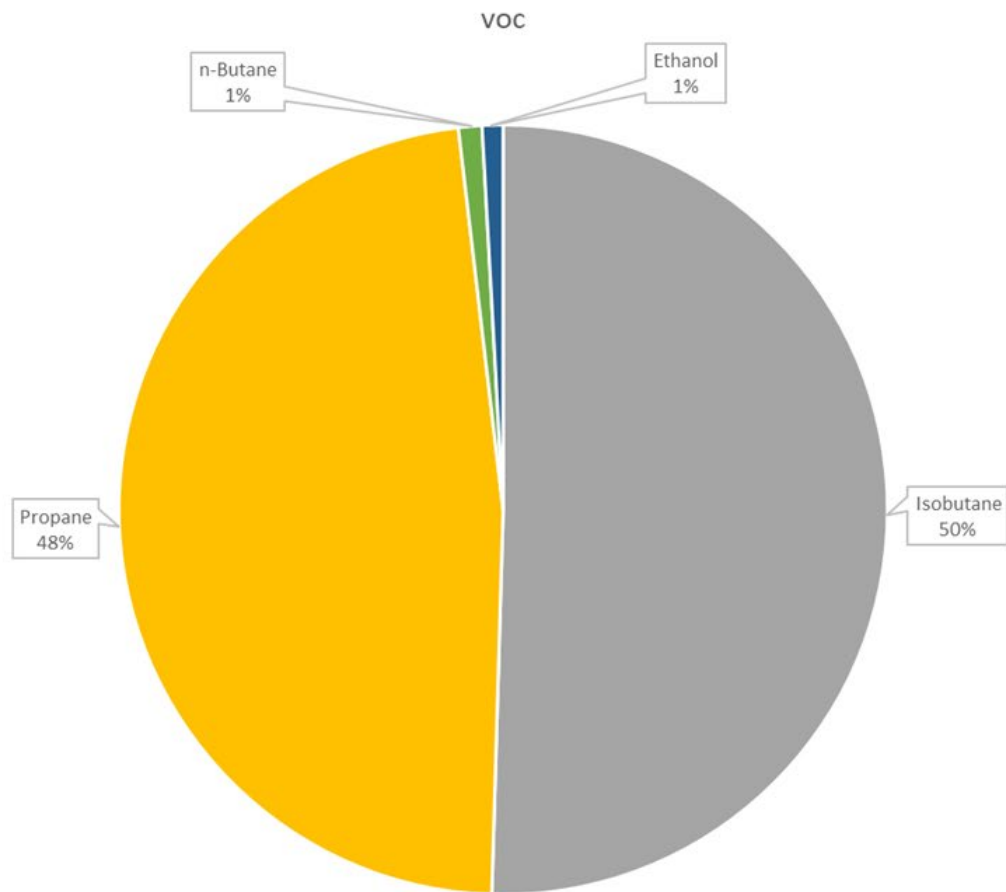
- ❖ Number of Companies Reporting: 5
- ❖ Number of Products Reported: 72
- ❖ Category VOC Range: 13.9 - 17.9 percent
- ❖ Average Product VOC: 17 percent
- ❖ Average Product Weighted MIR: .154



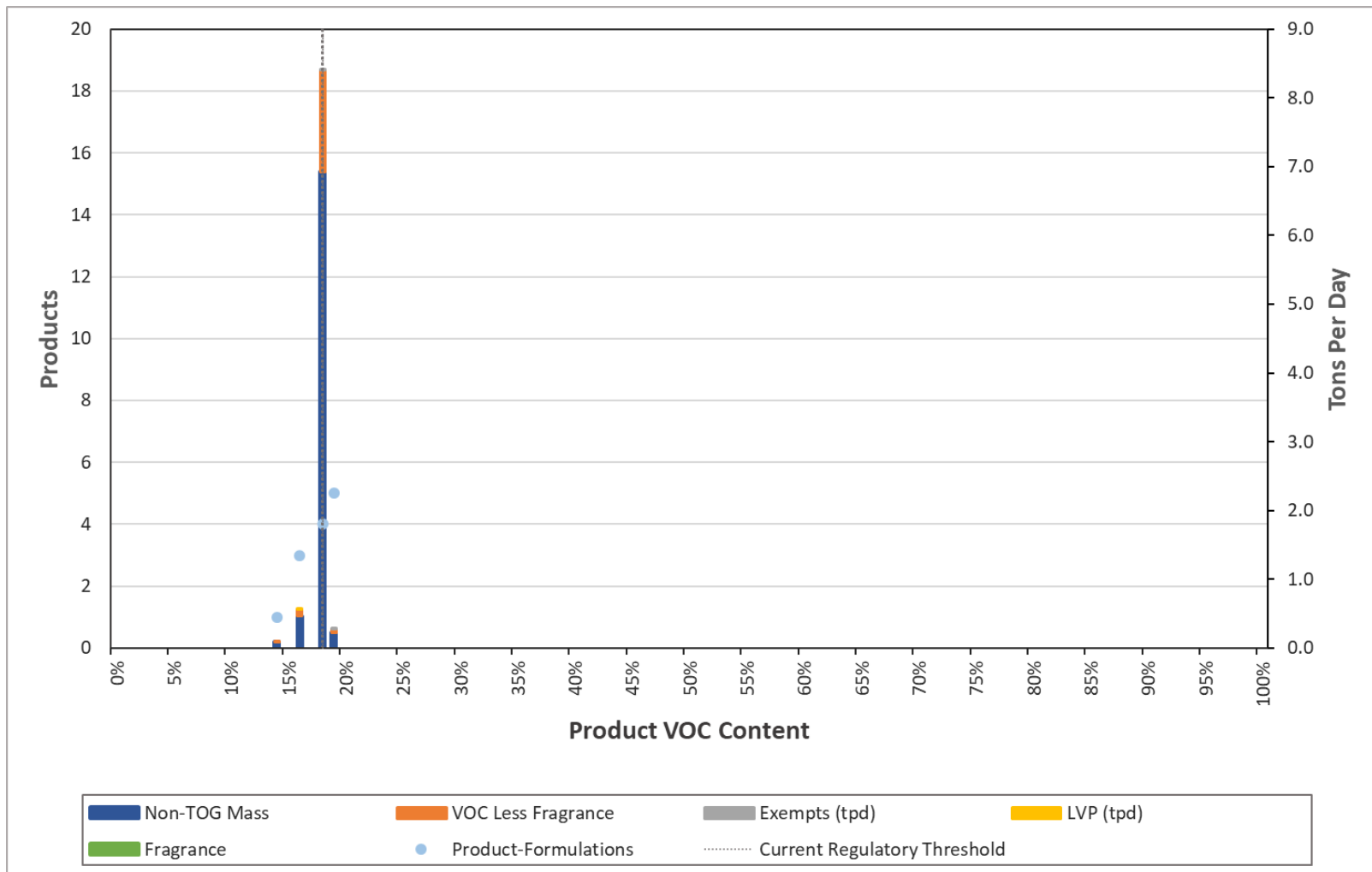
# Aerosol Cooking Spray VOC Breakdown

- ❖ Propellant
  - ❖ Iso-butane
  - ❖ Propane
  - ❖ N-Butane
- ❖ Ethanol

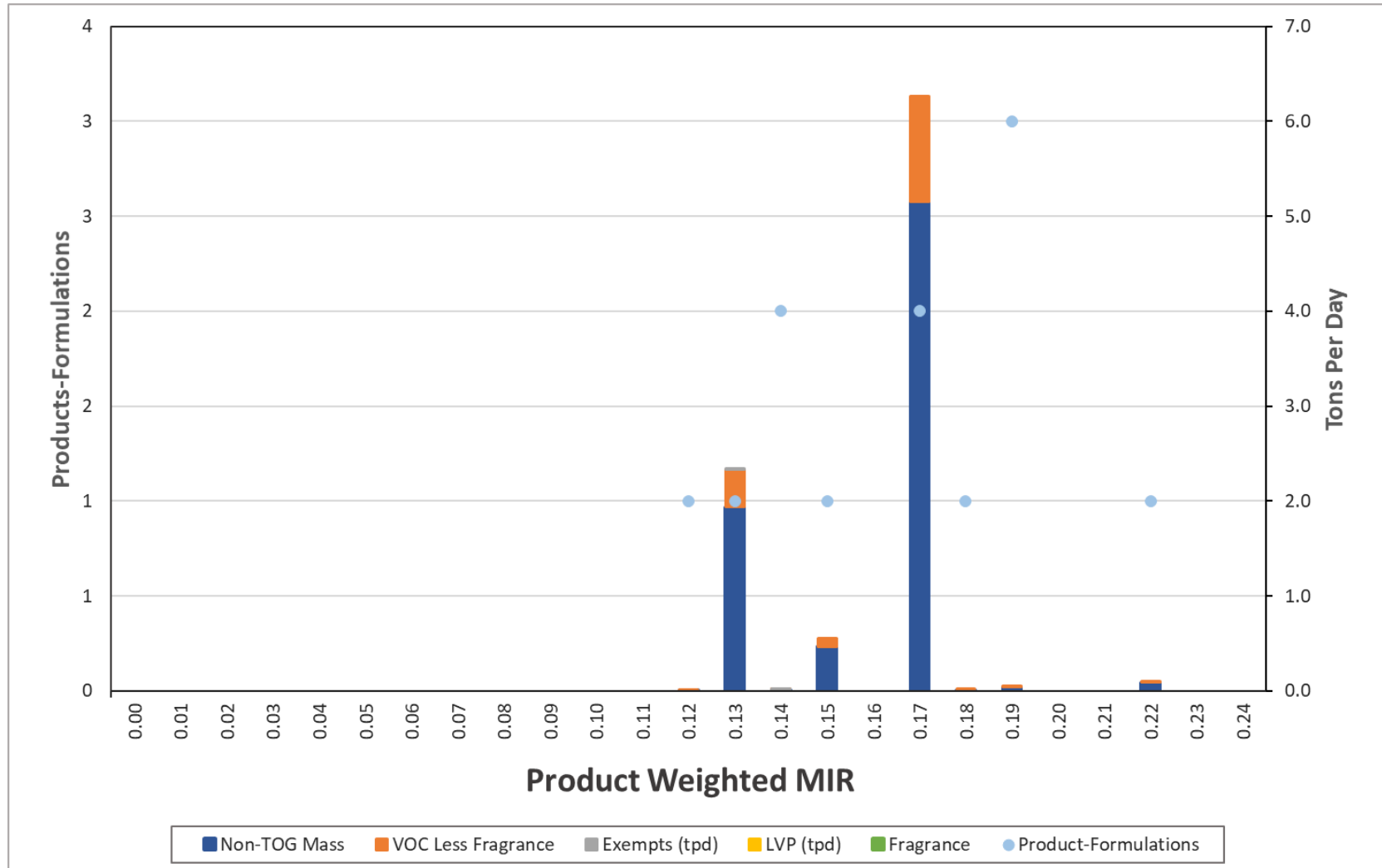
# Aerosol Cooking Spray VOC Details



# Cooking Spray VOC



# Aerosol Cooking Spray Product





# Discussion & Questions



# Floor Wax Stripper





## Category Overview: Floor Wax Stripper

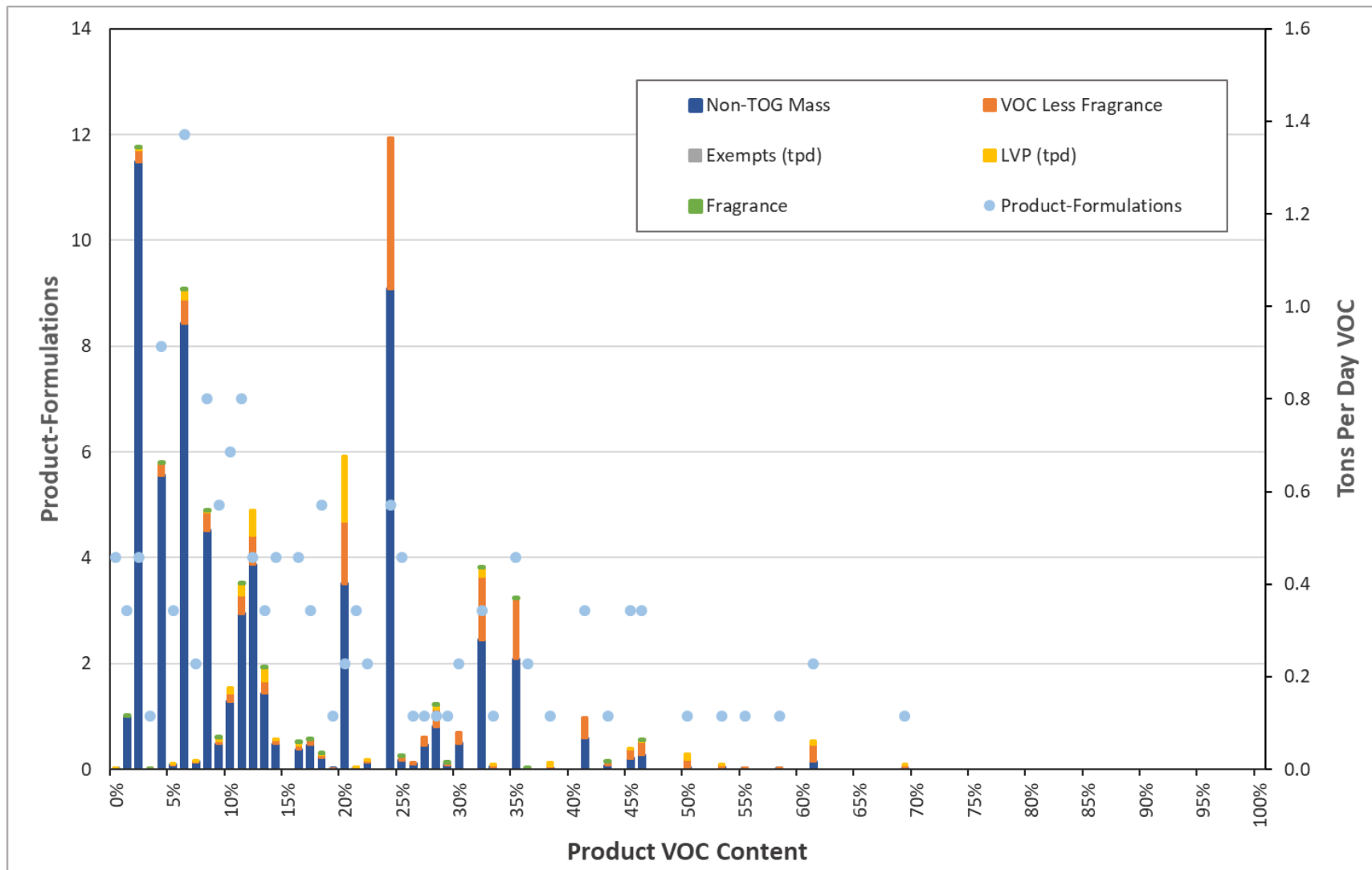
- ❖ “Floor Wax Stripper” means a product designed to remove natural or synthetic floor polishes or waxes through breakdown of the polish or wax polymers, or by dissolving or emulsifying the polish or wax. “Floor Wax Stripper” does not include aerosol floor wax strippers or products designed to remove floor wax solely through abrasion



## VOC Overview: Floor Wax Stripper

- ❖ Category is currently regulated for post-dilution VOC content at two levels
- ❖ “Light or medium build-up of polish”: 3% by weight or less
- ❖ “Heavy build-up of polish”: 12% by weight or less
- ❖ 266 unique products in 2015 survey
- ❖ 136 product-formulations
- ❖ 9.00 tpd product sales
- ❖ 1.34 tpd VOC, 1.73 tpd TOG, 7.94 tpd OFP

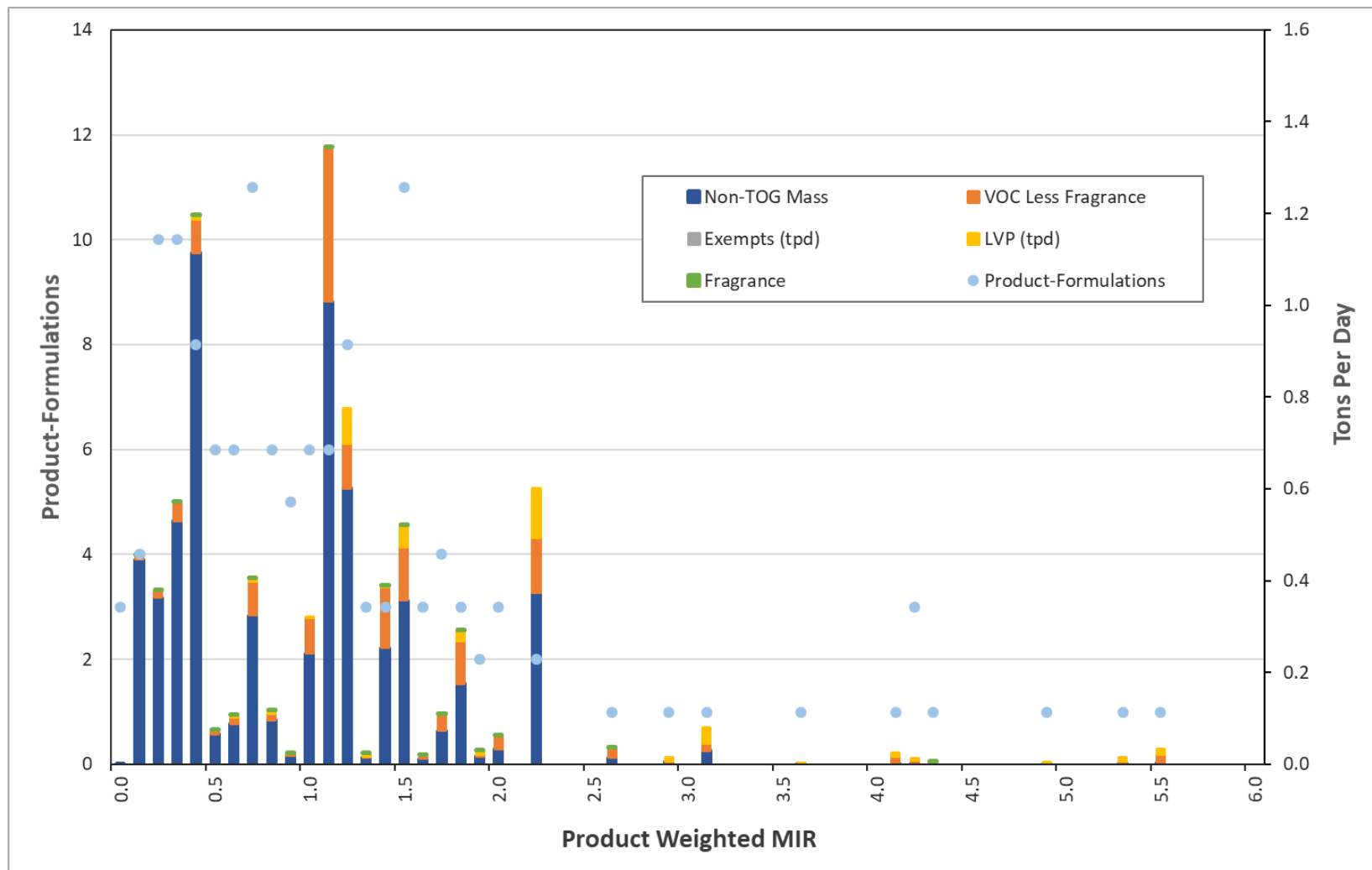
# Floor Wax Stripper As-Sold VOC Content



# Reactivity Overview: Floor Wax Stripper

- ❖ Average PWMIR of 0.88
- ❖ 49% of product sales and 48% of product formulations are above 0.9 PWMIR
- ❖ High MIR LVP species are used in some formulations which makes traditional VOC reduction strategies ineffective
  - ❖ Benzyl Alcohol: MIR 5.11
  - ❖ Ethylene Glycol Phenyl Ether: MIR 4.49

# Floor Wax Stripper As-Sold Reactivity



# Floor Wax Stripper

## Reactive TOG Constituents

TOG Ingredient	% of total	Speciation	MIR
Ethylene Glycol Monobutyl Ether	40.1%	VOC	2.90
Monoethanolamine	34.6%	VOC	6.81
Benzyl Alcohol	14.3%	LVP	5.11
Diethylene Glycol Monobutyl Ether	4.1%	LVP	2.39
Ethylene Glycol Phenyl Ether	1.7%	LVP	4.49
1-Amino-2-Propanol	1.6%	VOC	5.42
Propylene Glycol	0.8%	LVP	2.58
Ethylene Glycol Monoethyl Ether	0.7%	LVP	2.09
Diethylene Glycol Monoethyl Ether	0.5%	LVP	3.26



# Discussion & Questions



# **Paint Remover or Stripper**





## Category Overview: 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



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

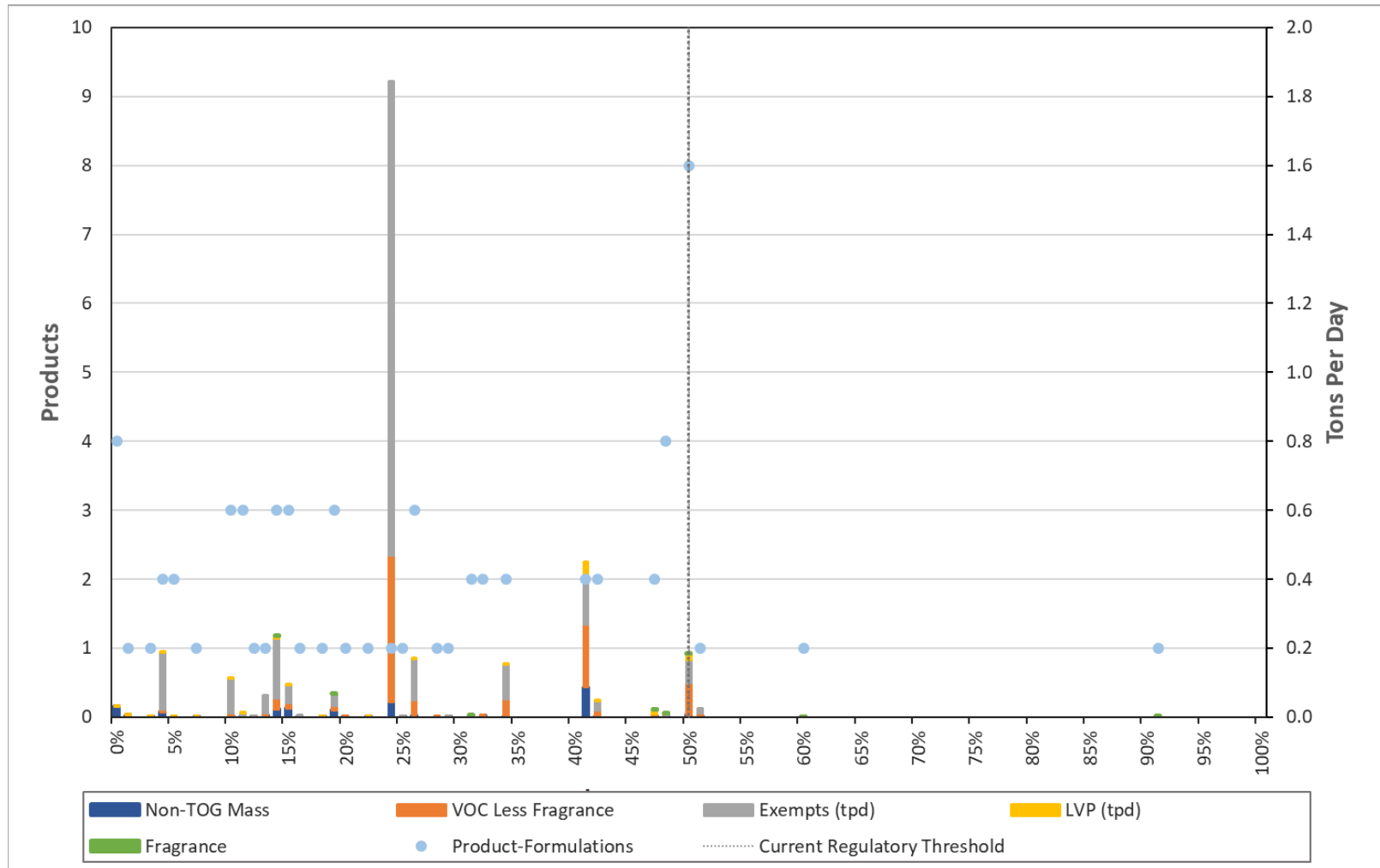
- ❖ MeCl exposure can cause death due to nervous system exposure
  - ❖ Less harmful substitutes available
- ❖ U.S. EPA announced ban on March 15, 2019
  - ❖ Does not apply to workplace uses
  - ❖ Action eliminates MeCl, an Exempt VOC, as a compliance option to meet paint stripper VOC content limits
-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



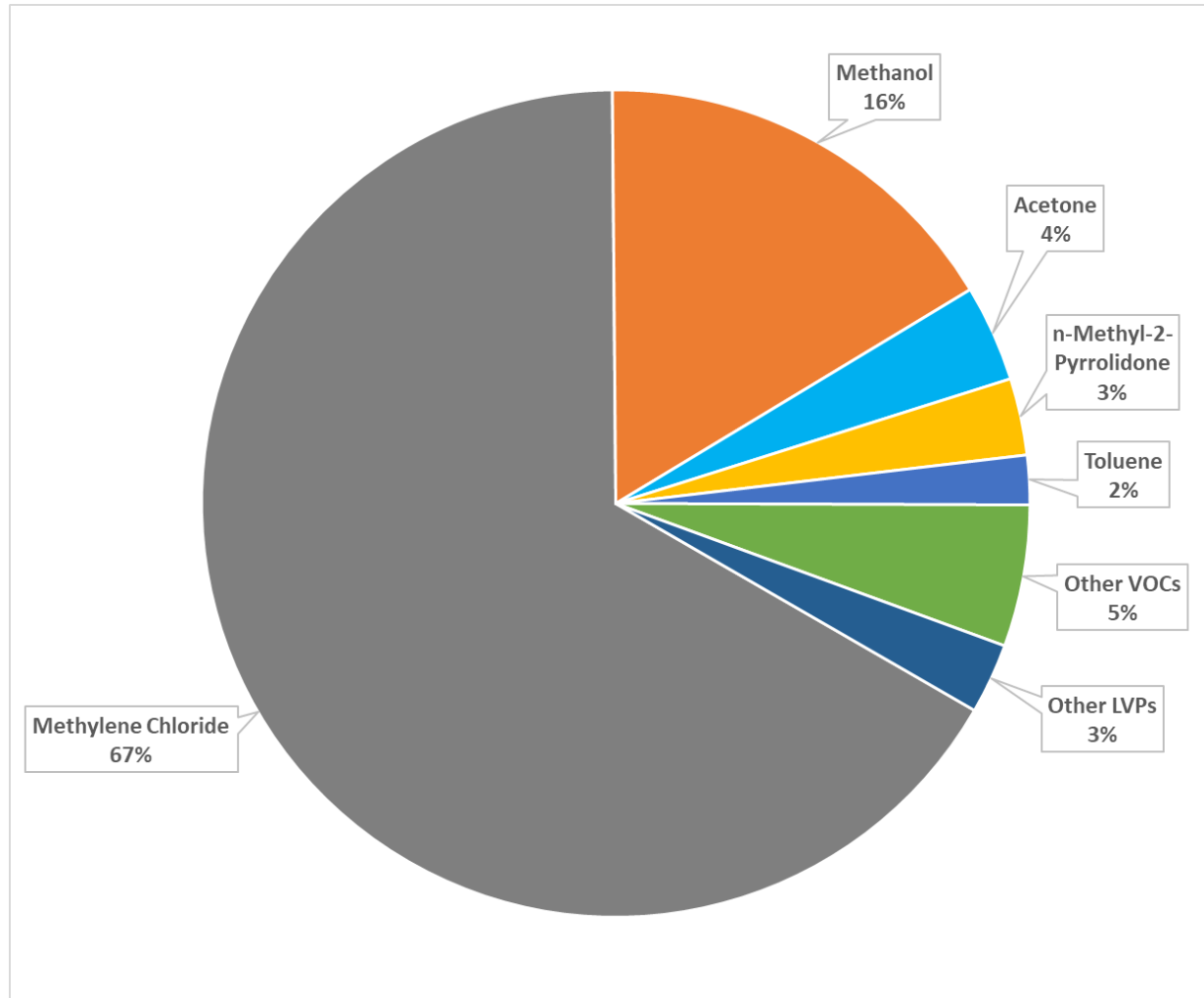
## Category Overview: Paint Remover or Stripper

- ❖ 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

# Paint Remover or Stripper VOC Content



# Paint Remover or Stripper TOG Speciation





# Discussion & Questions



# **Crawling Bug Insecticide**



## Category Overview:

### Crawling Bug Insecticide (Aerosol)

- ❖ “Crawling Bug Insecticide” means any insecticide product that is designed for use against ants, cockroaches, or other household crawling arthropods, such as mites, silverfish or spiders. “Crawling Bug Insecticide” does not include products designed to be used exclusively on humans or animals, or any house dust mite product.
- ❖ “Aerosol Product” means a pressurized spray system that dispenses product ingredients by means of a propellant contained in a product or a product's container, or by means of a mechanically induced force. “Aerosol Product” does not include “Pump Spray.”
- ❖ VOC limit of 15% effective December 31, 2004.





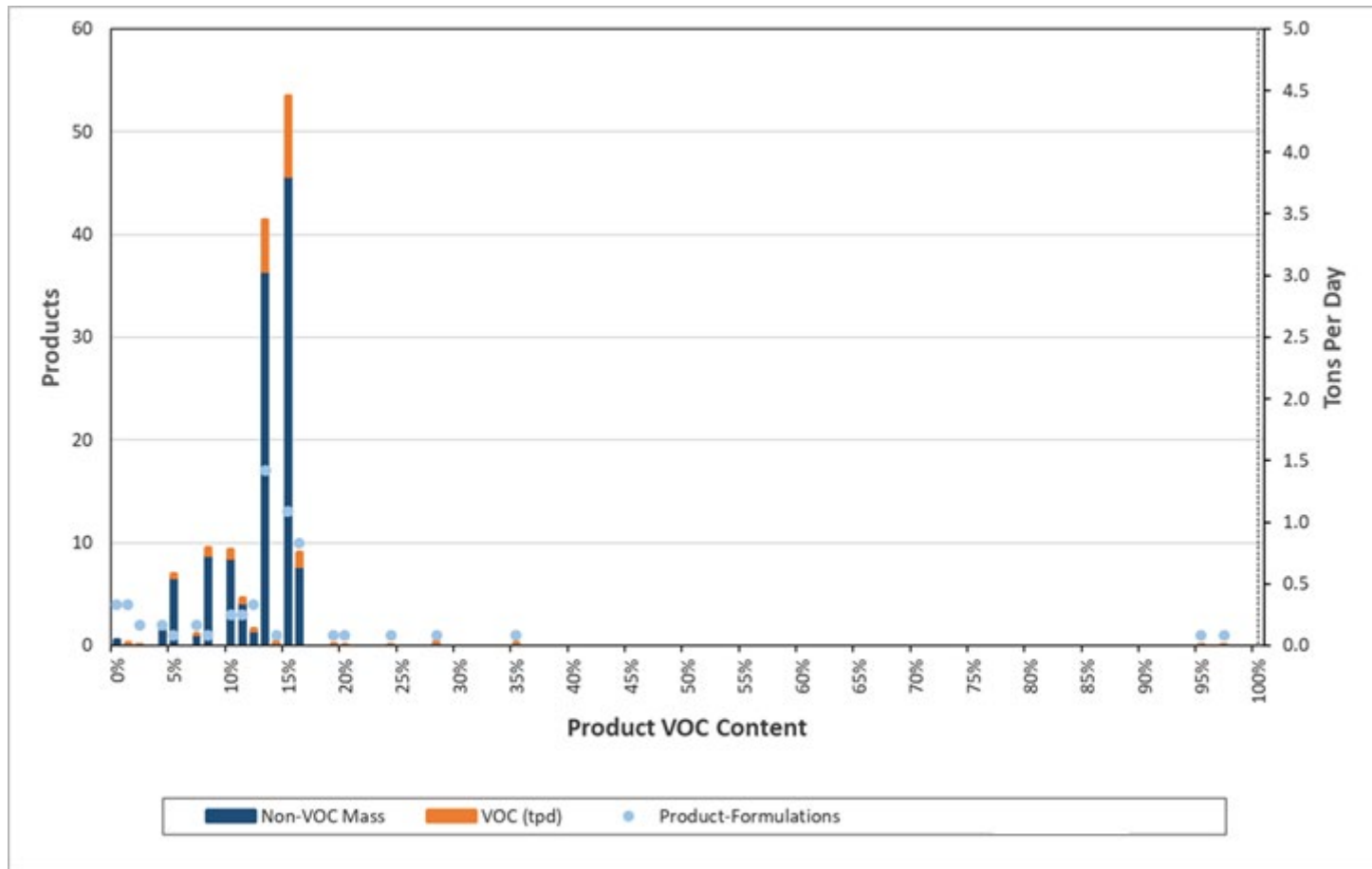
## **Category Overview (continued):**

### **Crawling Bug Insecticide (Aerosol)**

**Other insecticide categories that are not Crawling Bug Insecticides include:**

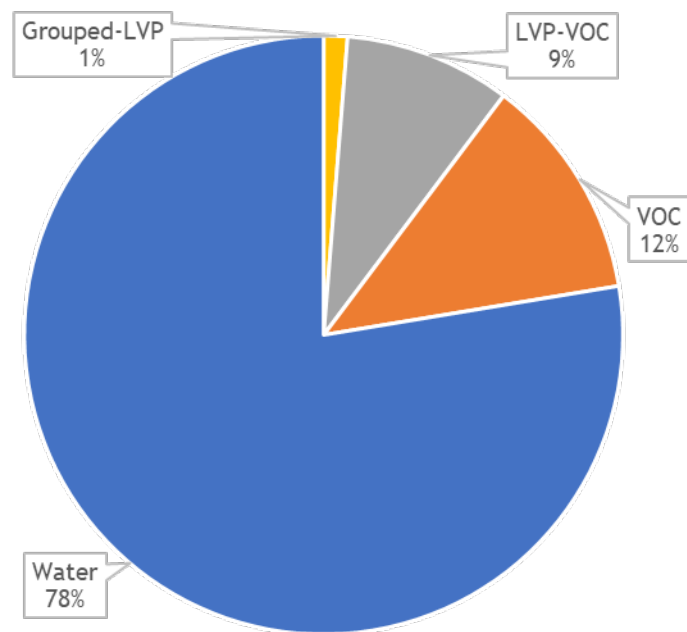
- ❖ Flea or Tick Insecticide
- ❖ Flying Bug Insecticide
- ❖ Insecticide Fogger
- ❖ Lawn or Garden Insecticide
- ❖ Wasp or Hornet Insecticide
- ❖ Insect repellent
- ❖ Any product designed for direct contact with humans or animals

# Category VOC Content: Crawling Bug Insecticide (Aerosol)

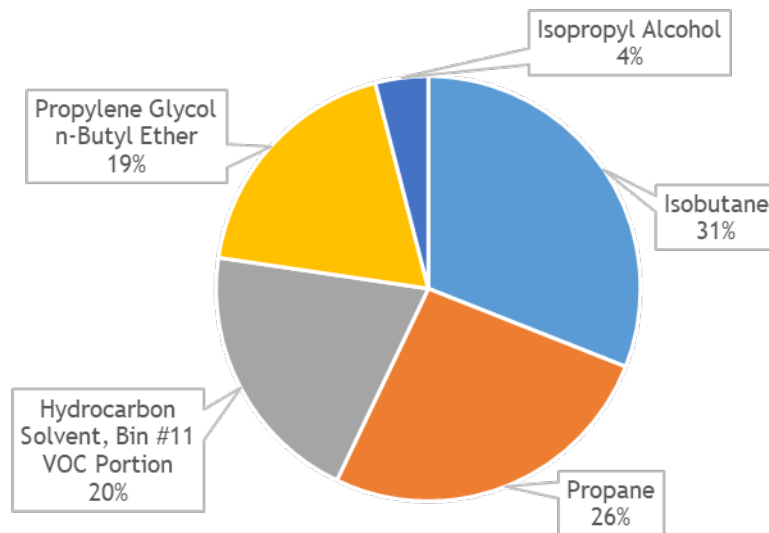


# Category Ingredient Breakdown: Crawling Bug Insecticide (Aerosol)

Crawling Bug Insecticide (aerosol) Ingredients



VOC Breakdown



# Category Overview: Crawling Bug Insecticide

## Possible VOC Thresholds

Crawling Bug Insecticide	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold
Percent VOC	15%	12%	10%	8%	5%
VOC Tons Per Day Reduced	0	0.19	0.36	0.55	0.87
Complying Market Share (Product-Formulations)	100%	35%	26%	22%	18%
Complying Market Share (Mass)	100%	25%	21%	14%	7%
Number of Companies	19	14	14	11	10
Number of Products	113	65	40	28	18



# Discussion & Questions



# Charcoal Lighter Material



# Category Definition and Regulatory History: Charcoal Lighter Material

- ❖ Charcoal Lighter Material” means any combustible material designed to be applied on, incorporated in, added to, or used with charcoal to enhance ignition. “Charcoal Lighter Material” does not include any of the following: (A) electrical starters and probes, (B) metallic cylinders using paper tinder, (C) natural gas, (D) propane, and (E) fat wood.
- ❖ Only Category Certified by CARB.
- ❖ Current VOC limit is 0.020 lb/start (SCAQMD Rule 1174 Ignition Method Compliance Testing Protocol)



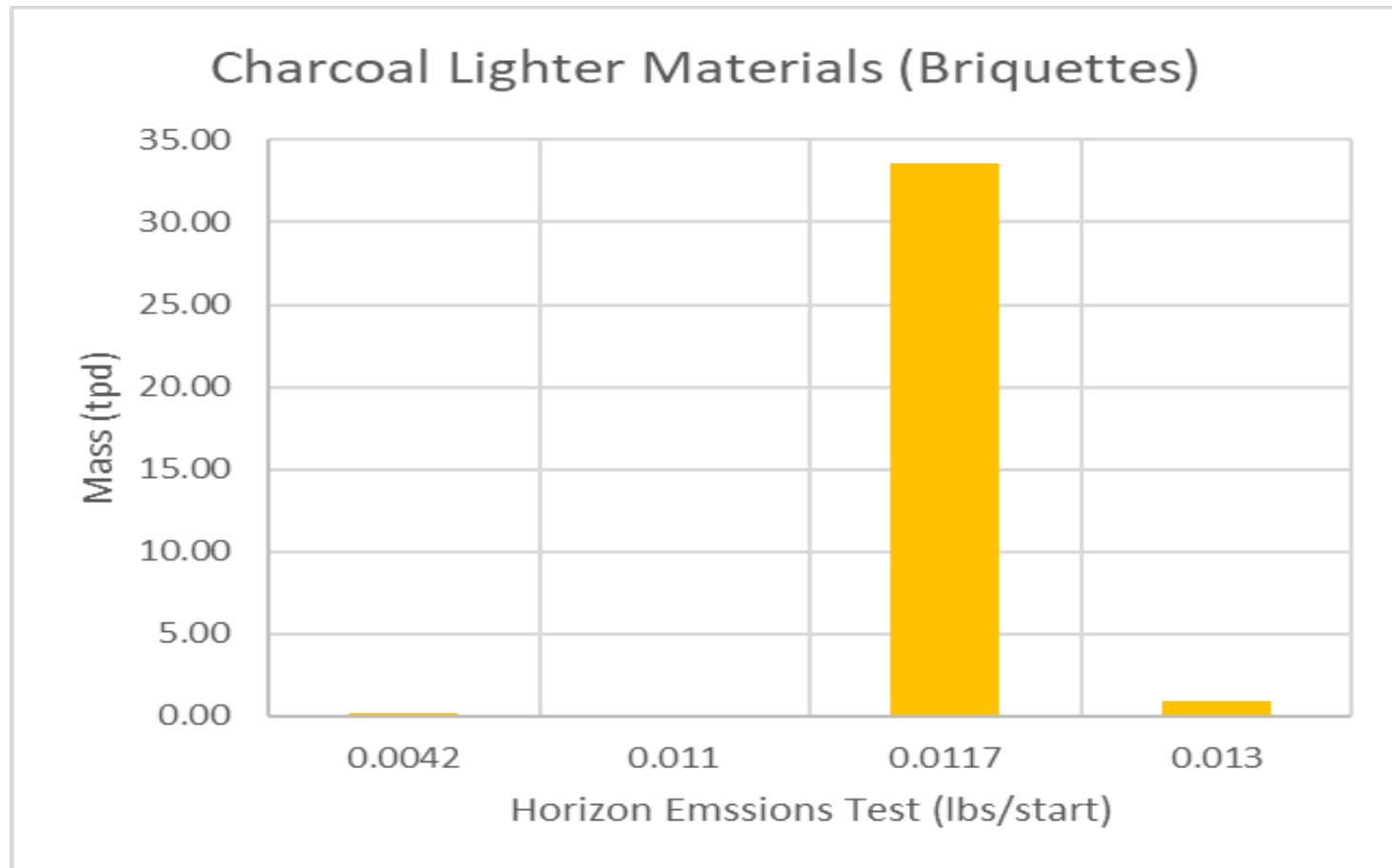
## Category Overview:

### Charcoal Lighter Material

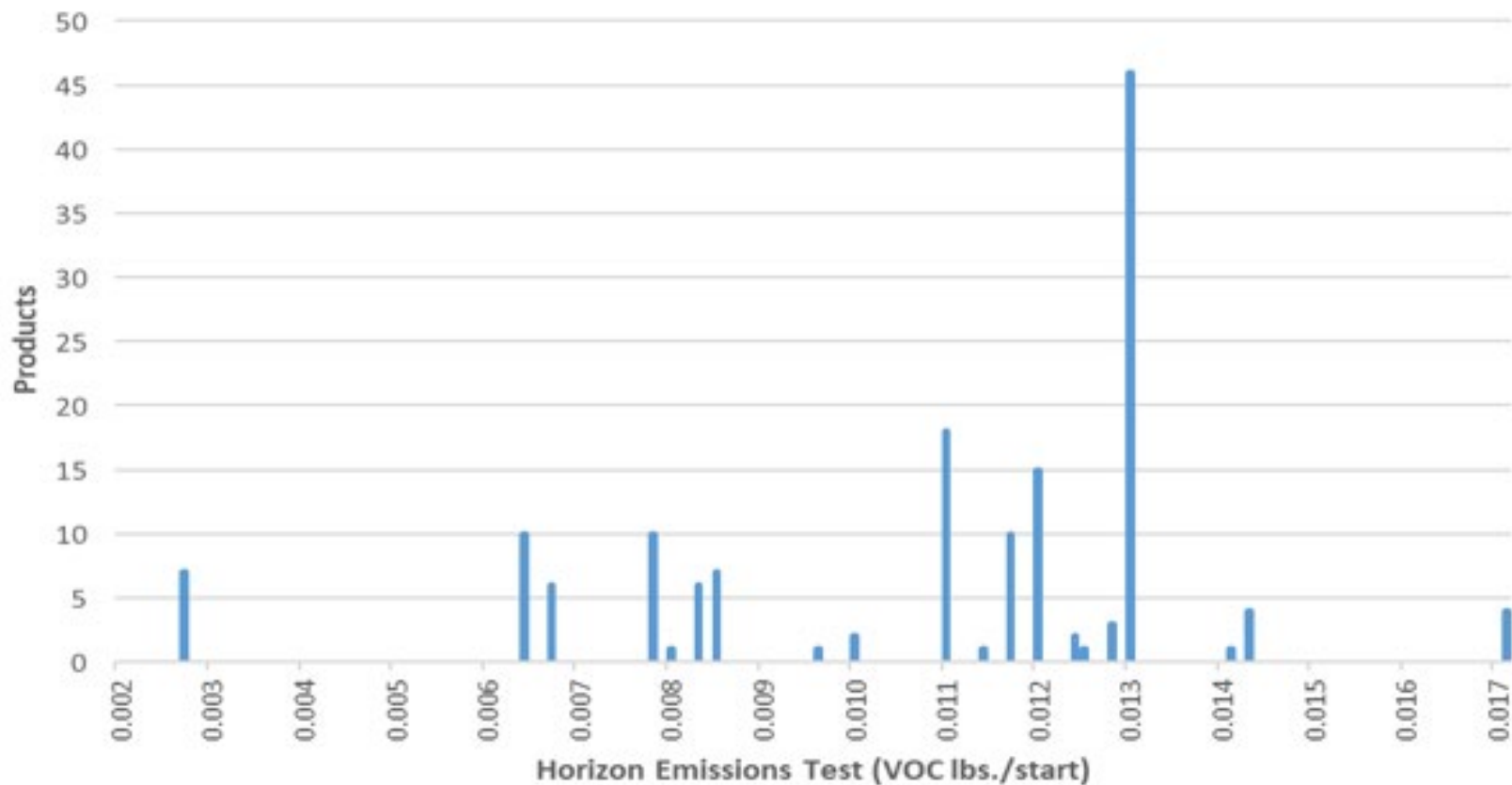
Charcoal Lighter Material	Charcoal Lighter Briquettes	Charcoal Lighter Fluid
<ul style="list-style-type: none"><li>• Reporting Companies: 14</li><li>• Reporting Products: 46</li><li>• SWA-VOC Content: 54.09%</li><li>• VOC (tpd): 1.98</li><li>• VOC Emission Rate Range (lbs/start): 0.0042 – 0.02</li><li>• SWA-VOC Emission Rate (lbs/start): 0.0125</li></ul>	<ul style="list-style-type: none"><li>• Reporting Companies: 6</li><li>• Reported Products: 20</li><li>• SWA-VOC Content: 11.88%</li><li>• VOC (tpd): 0.22</li><li>• VOC Emission Rate Range (lbs/start): 0.0042 – 0.0117</li><li>• SWA-VOC Emission Rate (lbs/start): 0.0117</li></ul>	<ul style="list-style-type: none"><li>• Reporting Companies: 14</li><li>• Reported Products: 26</li><li>• SWA-VOC Content: 95.61%</li><li>• VOC (tpd): 1.76</li><li>• VOC Emission Rate Range (lbs/start): 0.0173 – 0.02</li><li>• SWA-VOC Emission Rate (lbs/start): 0.0173</li></ul>



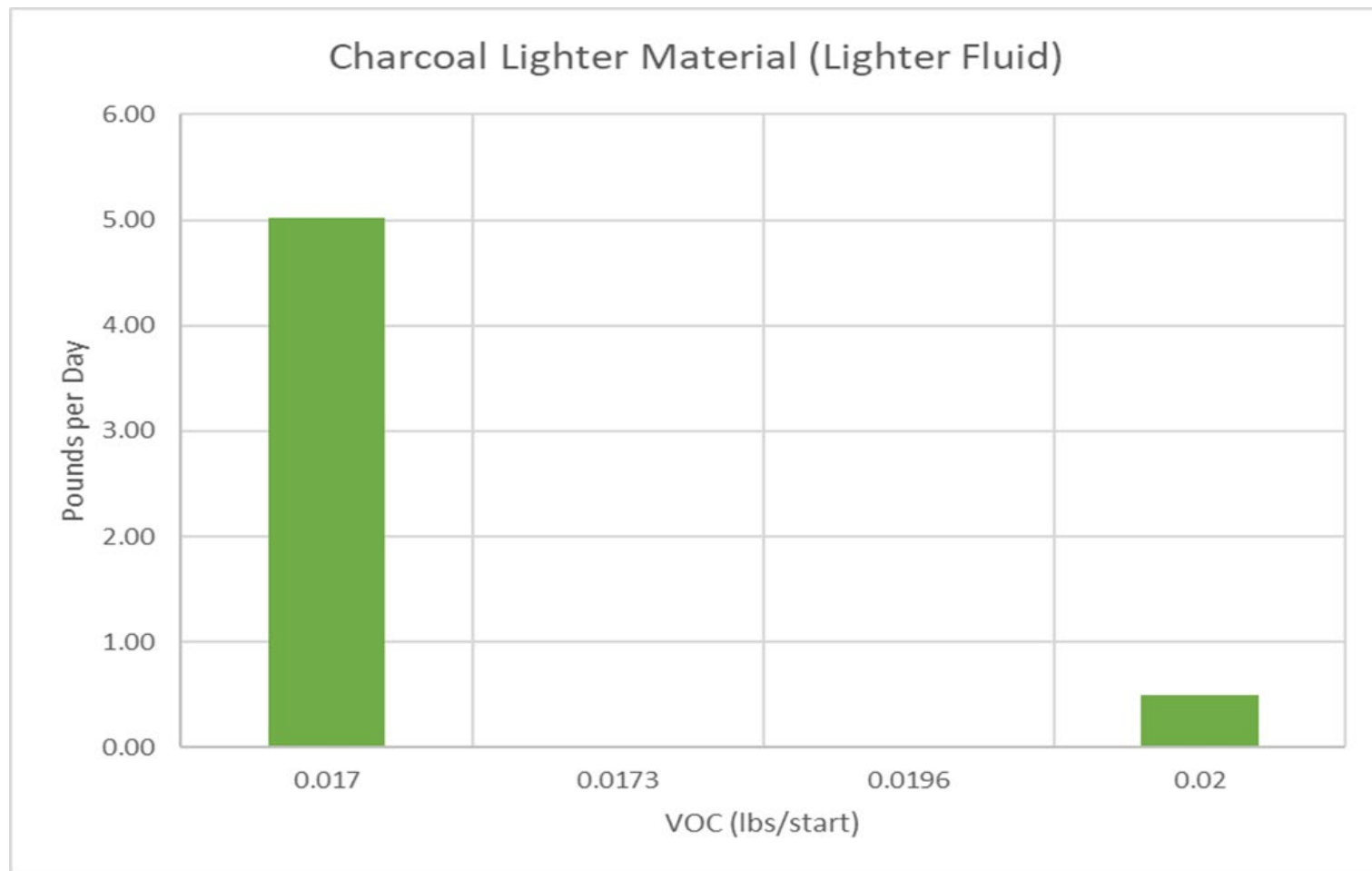
# Charcoal Lighter Briquettes: Emissions by Sales Mass (2015)



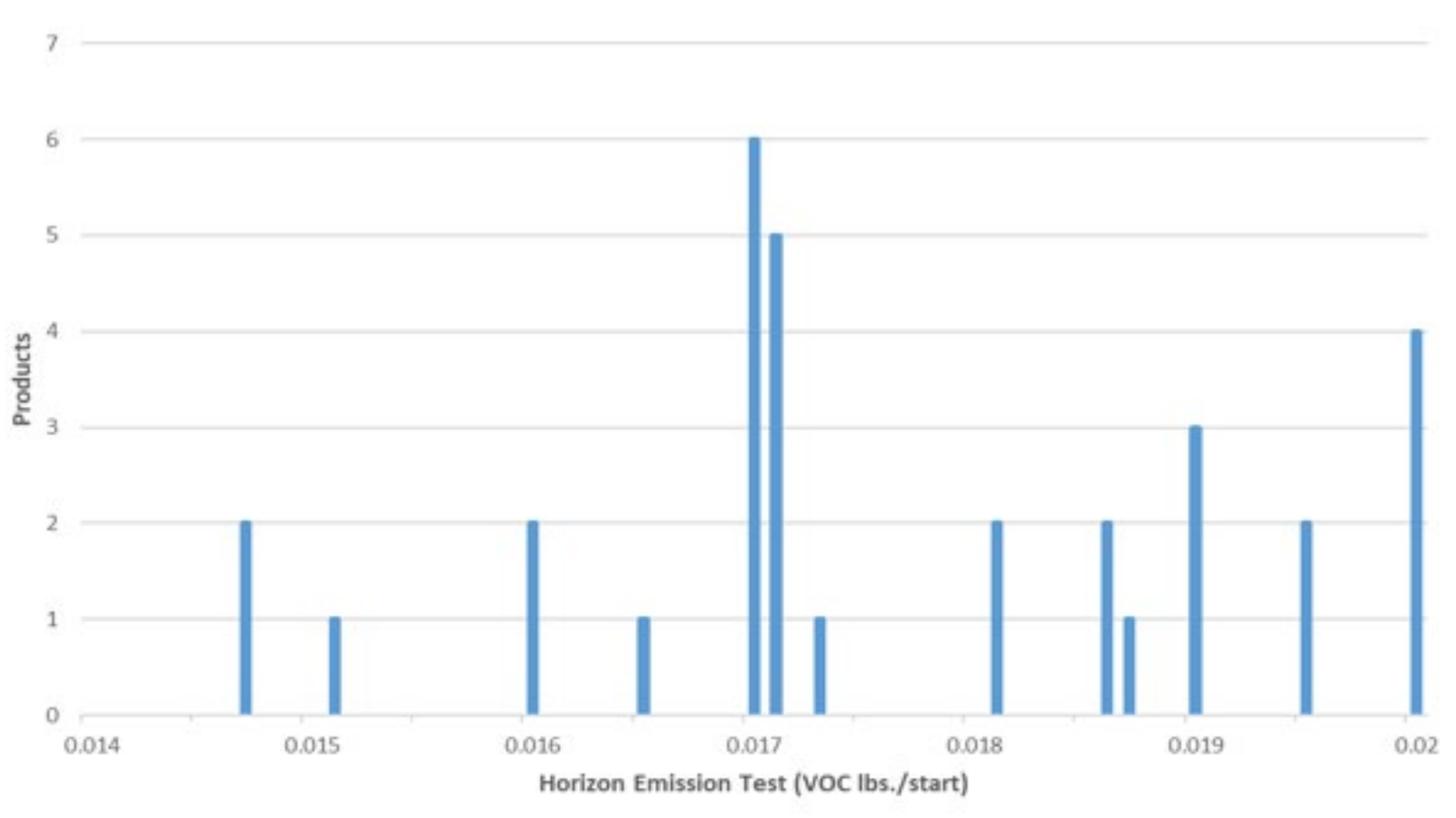
# Number of CARB Certified Briquette Products (2012-Present)



# Charcoal Lighter Fluid: Emissions by Sales Mass (2015)



# Number of CARB Certified Lighter Fluids (2012-present)



# Possible VOC Thresholds: Charcoal Lighter Material

Charcoal Lighter Material	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold
VOC Emission Rate (lbs./start)	0.018	0.016	0.015	0.014	0.012
VOC Tons Per Day Reduced	0.00	0.012	0.22	0.33	0.53
Complying Market Share (Mass) <sup>1</sup>	98%	50%	50%	50%	47%
Number of Certified Charcoal Lighter Fluid Products <sup>2</sup>	18	5	2	0	0
Number of Certified Charcoal Lighter Briquette Products <sup>2</sup>	155	151	151	146	94

<sup>1</sup> Products Reported in 2015 Survey.

<sup>2</sup> CARB Certified products since 2012.



# **Discussion & Questions**



# **Anti-microbial Dry Hand Wash (or Hand Sanitizer)**



# Anti-microbial Dry Hand Wash or Hand Sanitizer Category Overview:

- ❖ Currently not a regulated category
- ❖ The definition has not been stated in the regulation
- ❖ Health benefit products
- ❖ Regulated by U.S. FDA
- ❖ Available as liquids, gels, and foams





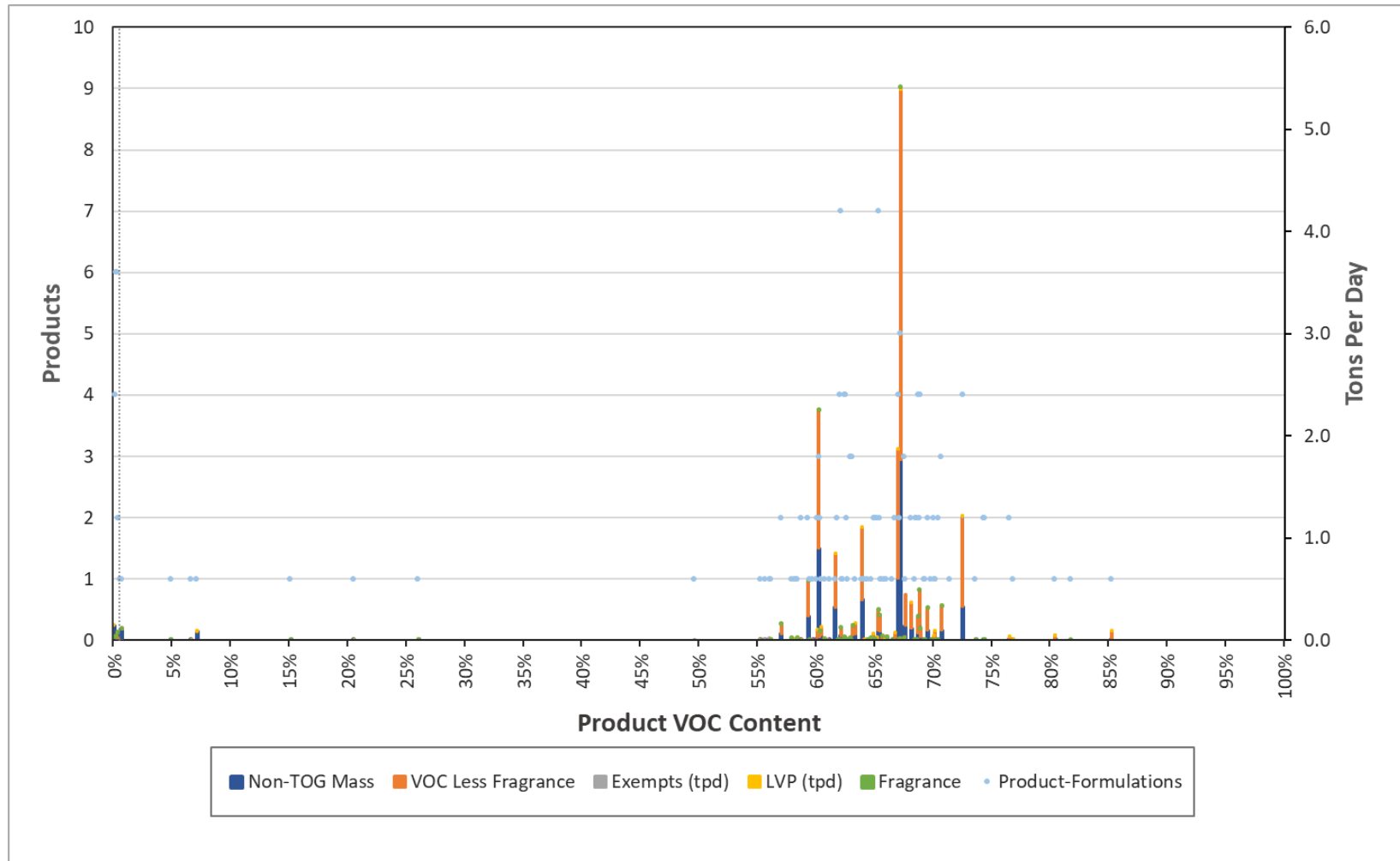
## **Anti-microbial Dry Hand Wash or Hand Sanitizer Category Overview:**

**“Anti-microbial Dry Hand Wash”** means a product that is labeled as a “hand sanitizer” for use solely on human hands to reduce infectious microorganisms and is not required to be rinsed after application.

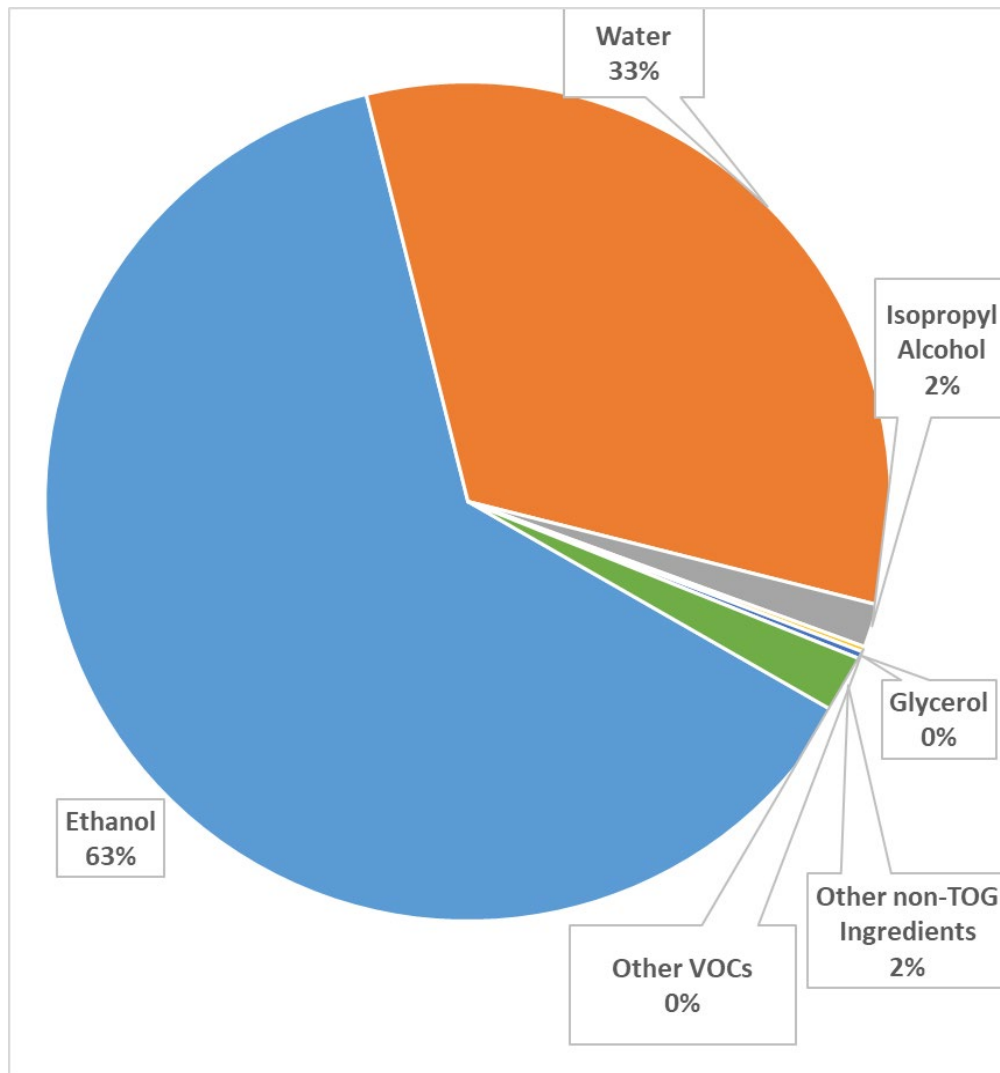
# Anti-microbial Dry Hand Wash or Hand Sanitizer Category Overview:

<b>Number of Companies</b>	106
<b>Number of Products</b>	1250
<b>Sales (tpd)</b>	18.39
<b>VOC Mass (tpd)</b>	11.79
<b>SWA VOC (%)</b>	64.08
<b>TOG MIR (gO<sub>3</sub>/gTOG)</b>	1.52

# Anti-microbial Dry Hand Wash or Hand Sanitizer VOC Content:



# Anti-microbial Dry Hand Wash or Hand Sanitizer Speciation Breakdown:



# Anti-microbial Dry Hand Wash or Hand Sanitizer

## Example VOC Thresholds:

Anti-microbial Dry Hand Wash or Hand Sanitizer	Possible VOC Threshold	Possible VOC Threshold	Possible VOC Threshold	Possible VOC Threshold	Possible VOC Threshold
Possible VOC Limit	60%	63%	65%	67%	70%
VOC Tons Per Day Reduced	1.14	0.69	0.44	0.21	0.06
Product Formulations (number of products)	29%	52%	58%	70%	88%
Product Formulations (Mass)	7%	27%	45%	49%	90%



# Anti-microbial Dry Hand Wash or Hand Sanitizer

## Further Steps:

- ❖ April 2019 FDA Final Rule
- ❖ Consumer antiseptic rub products vs Health care antiseptic rub products
- ❖ Optimum alcohol concentration
- ❖ Combination of two active ingredients



# **Discussion & Questions**



## Next Steps:

- ❖ Fall 2019: Public workshop to identify and quantify emissions benefits of regulatory options
- ❖ Late 2019/Early 2020: Additional public workshop(s) as needed
- ❖ Ongoing: Meet with interested stakeholders
- ❖ Late 2020: Proposed regulatory amendments for Board consideration



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