

Regulatory Strategies Work Group Webinar for:

- Hair Finishing Spray
- No Rinse Shampoo
- Aerosol Sunscreen
- Mouthwash
- Personal Fragrance Products with Less than 20% Fragrance
- Antiperspirants and Deodorants

October 10, 2019
10:00am-12:00pm



Overview

- ❖ CARB rulemaking to identify additional required consumer product VOC reductions
- ❖ April 12, 2019: Kickoff Public Workshop
- ❖ May- July 2019: Eleven initial work group meetings to evaluate 47 promising categories
- ❖ Summer 2019: Stakeholder meetings
- ❖ Today: Kick off next round of two work group meetings covering 17 product categories



Hair Finishing Spray



Category Overview:

Hair Finishing Spray

“Hair Finishing Spray” means a consumer product that is designed or labeled for application to styled hair to provide sufficient rigidity, to hold, retain or finish the style of the hair for a period of time. “Hair Finishing Spray” includes aerosol hair sprays, pump hair sprays, spray waxes; color, glitter, or sparkle hair sprays that make finishing claims; and products that are both a styling and finishing product. “Hair Finishing Spray” does not include spray products that are intended to aid in styling but do not provide finishing of a hair style.

For the purposes of this subchapter, “finish” or “finishing” means the maintaining and/or holding of previously styled hair for a period of time.

For the purposes of this subchapter, “styling” means the forming, sculpting, or manipulating the hair to temporarily alter the hair's shape.

Category Overview:

Hair Finishing Spray

❖ Regulation Activity

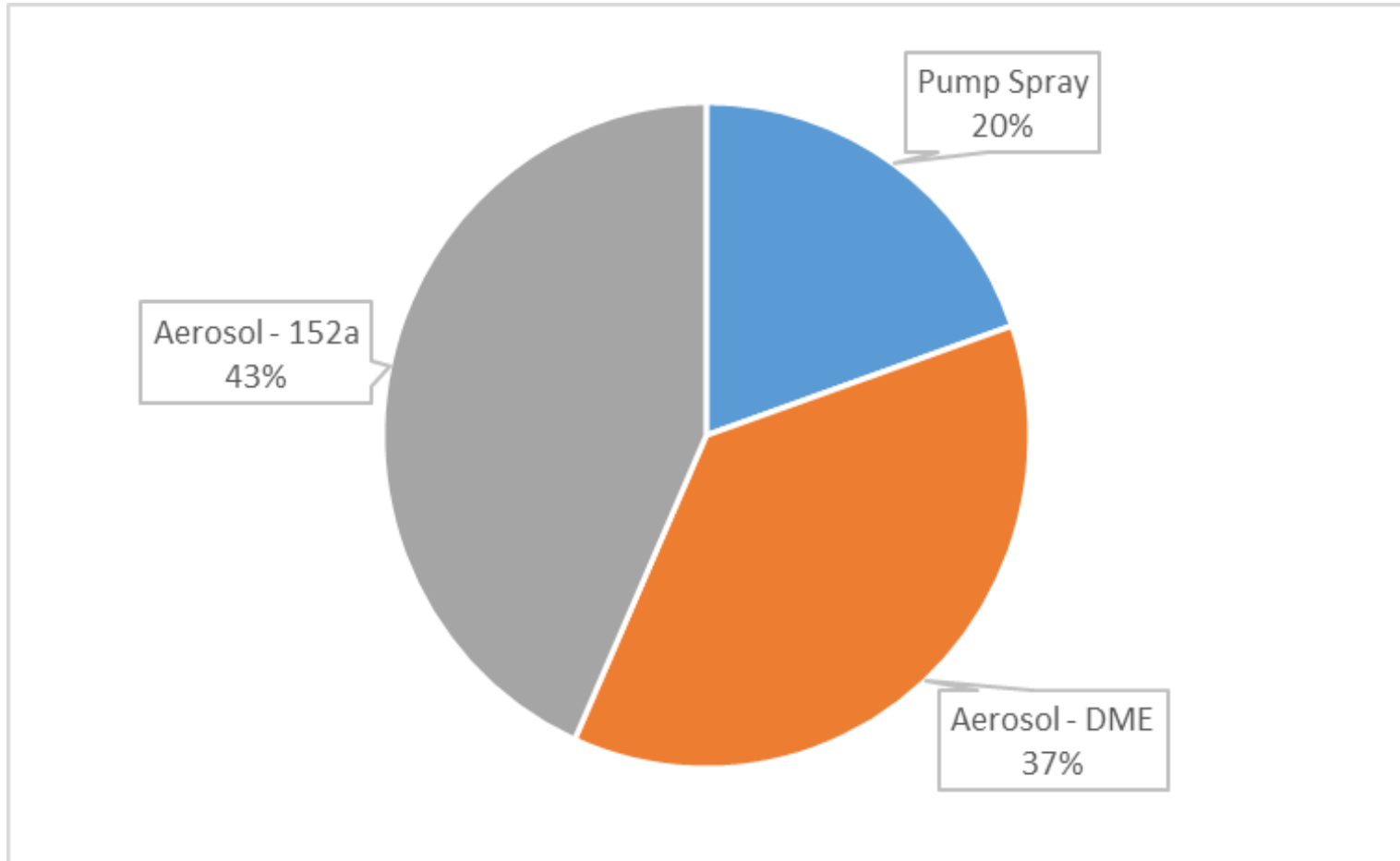
- ❖ 80% VOC effective January 1, 1993
- ❖ 55% VOC effective June 1, 1999

❖ Category Summary

- ❖ 1,165 products surveyed
- ❖ 109 companies surveyed
- ❖ 19.5 tpd sales
- ❖ 10.4 tpd VOC
- ❖ Sales weighted average VOC 53.24%
- ❖ Most products 50-55% VOC
- ❖ Formulations consists primarily of ethanol and propellant

Category Overview:

Hair Finishing Spray Mass





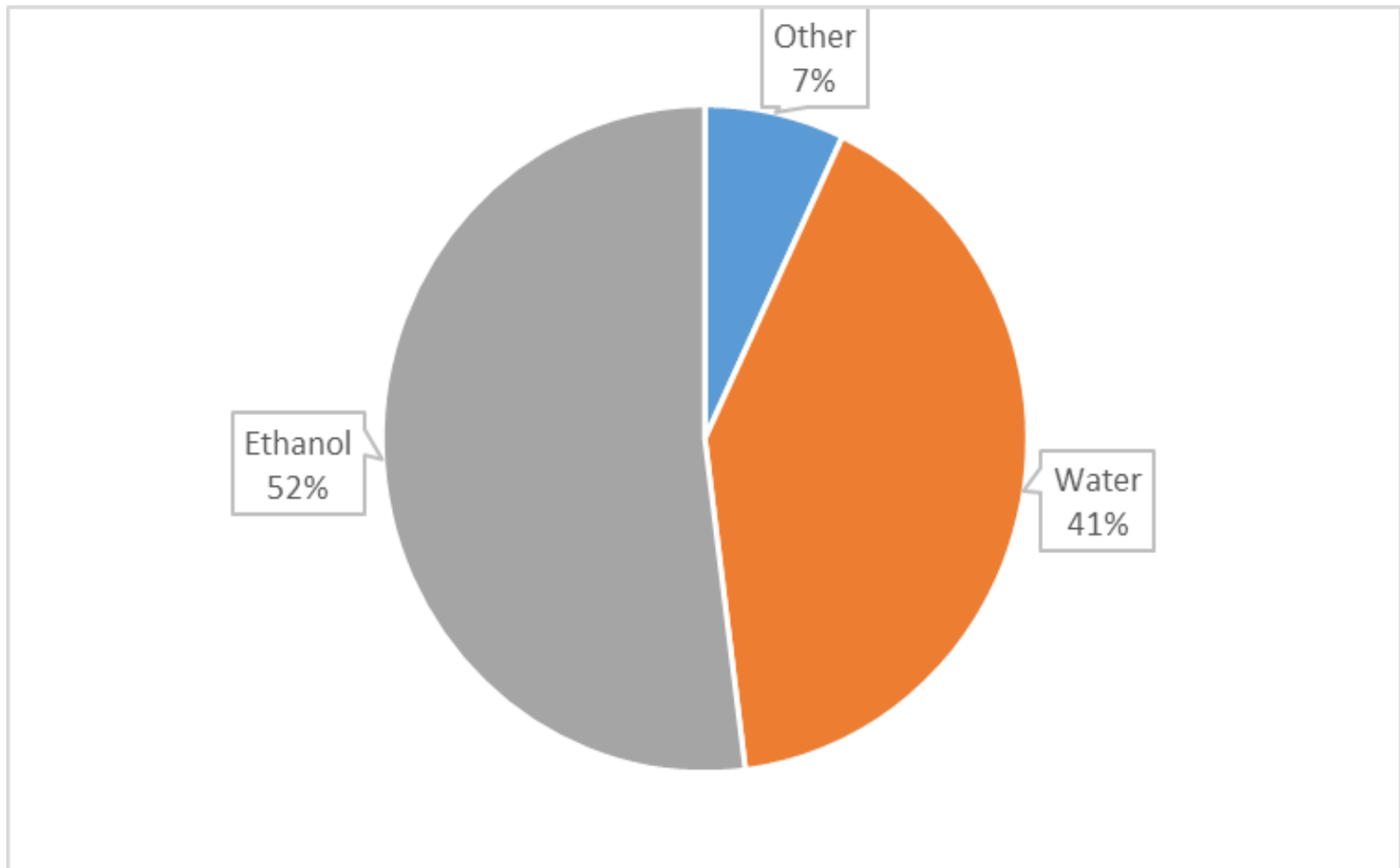
Category Overview:

Hair Finishing Spray - Pump Spray Form

Number of Companies	64
Number of Products	282
Sales (tpd)	3.9
VOC Mass (tpd)	2.0
SWA VOC (%)	52.5%

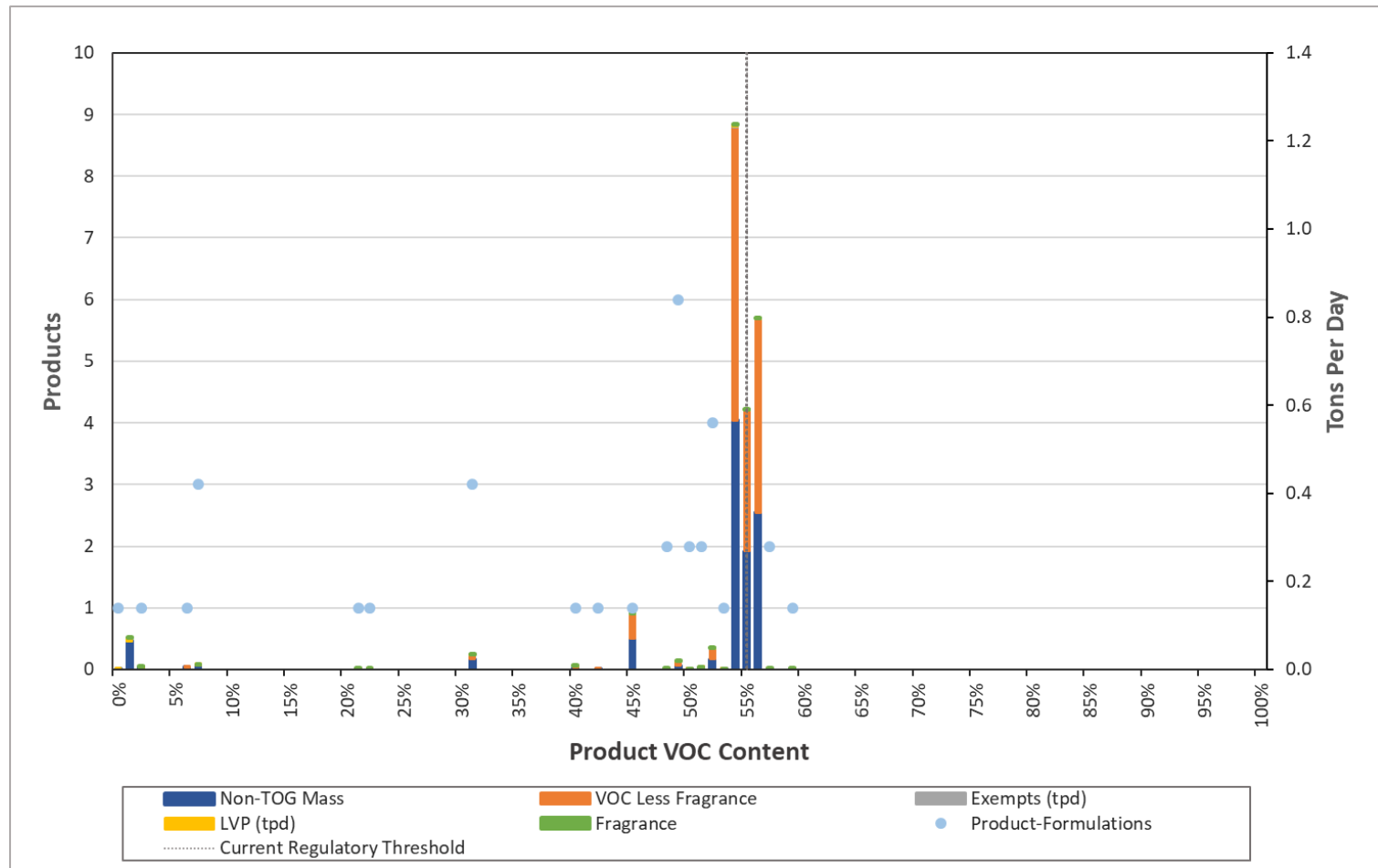
Category Overview:

Hair Finishing Spray - Pump Spray Form



Category Overview:

Hair Finishing Spray - Pump Spray





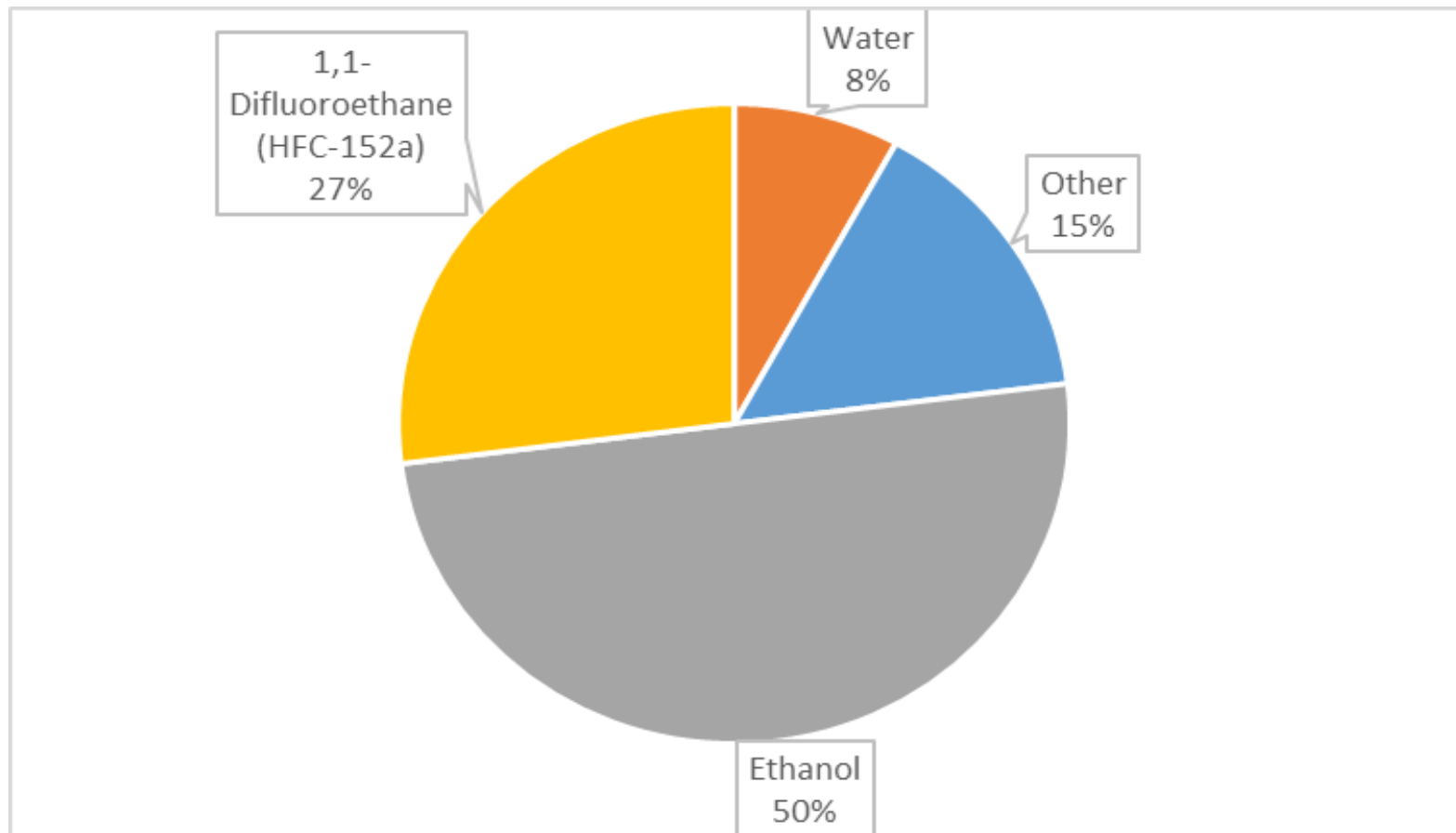
Category Overview:

Hair Finishing Spray - 152a Aerosol

Number of Companies	29
Number of Products	167
Sales (tpd)	8.4
VOC Mass (tpd)	4.6
SWA VOC (%)	54.4%

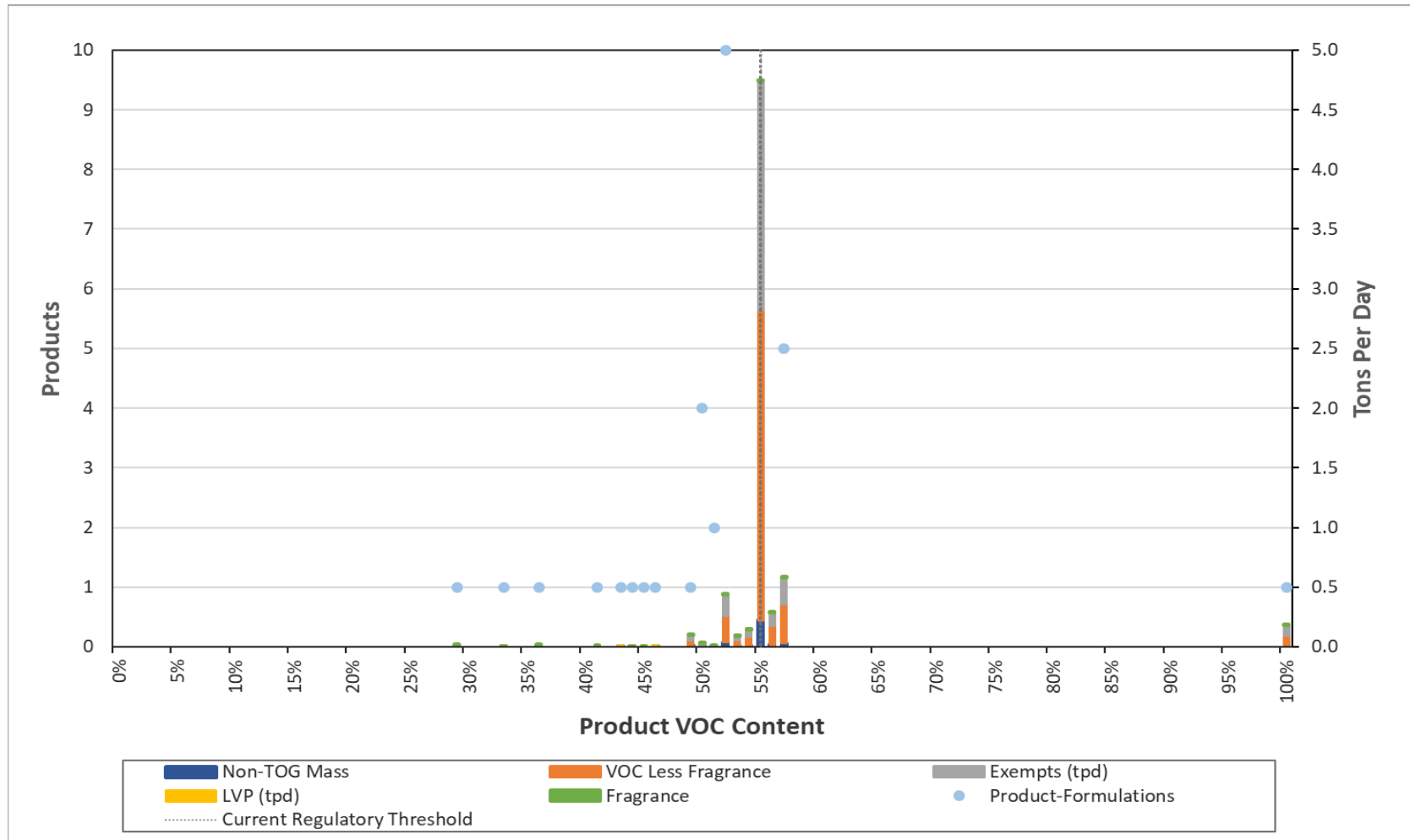
Category Overview:

Hair Finishing Spray -152a Aerosol



Category Overview:

Hair Finishing Spray - 152a Aerosol





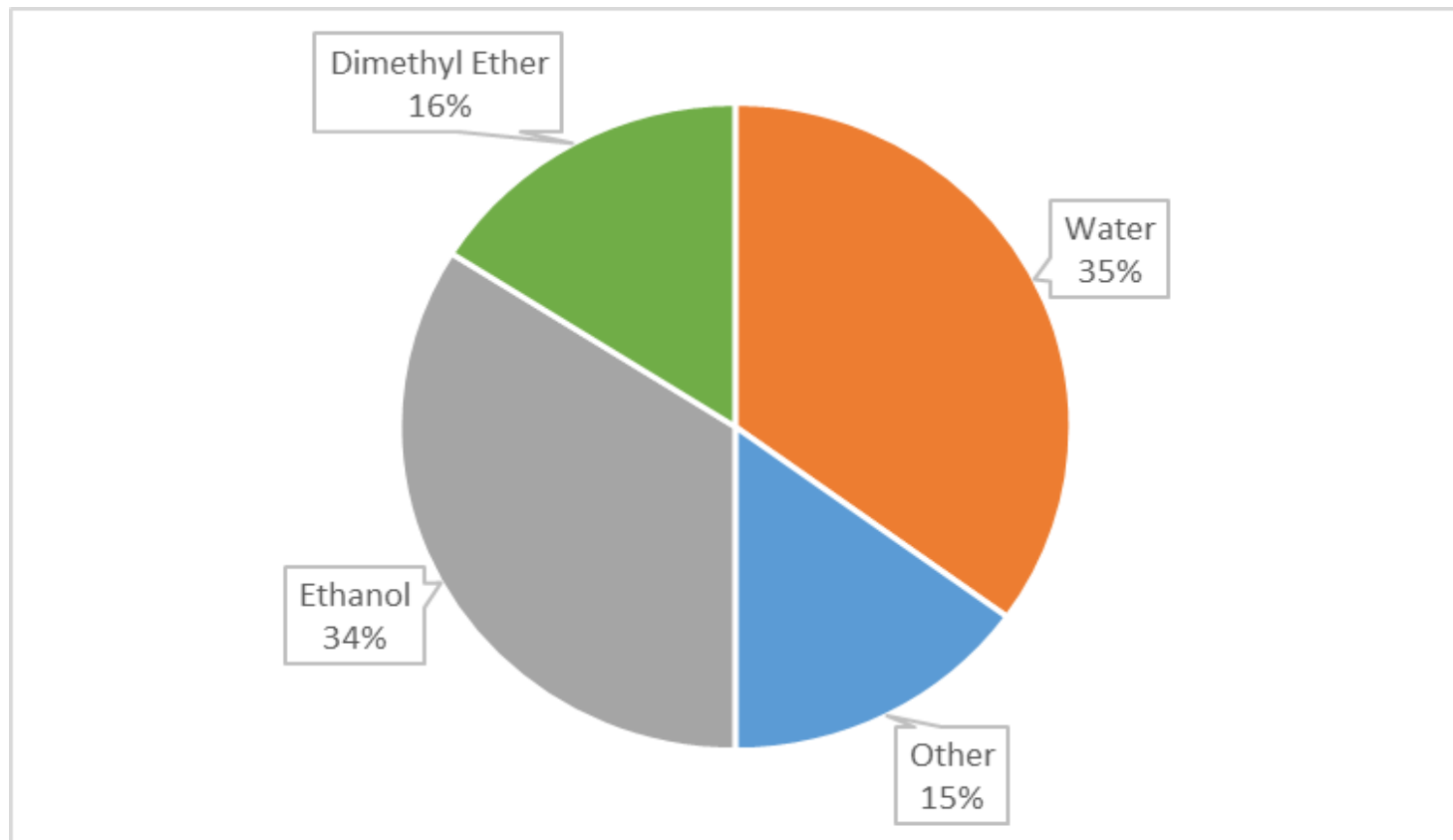
Category Overview:

Hair Finishing Spray - DME Aerosol

Number of Companies	41
Number of Products	51
Sales (tpd)	7.2
VOC Mass (tpd)	3.9
SWA VOC (%)	53.6%

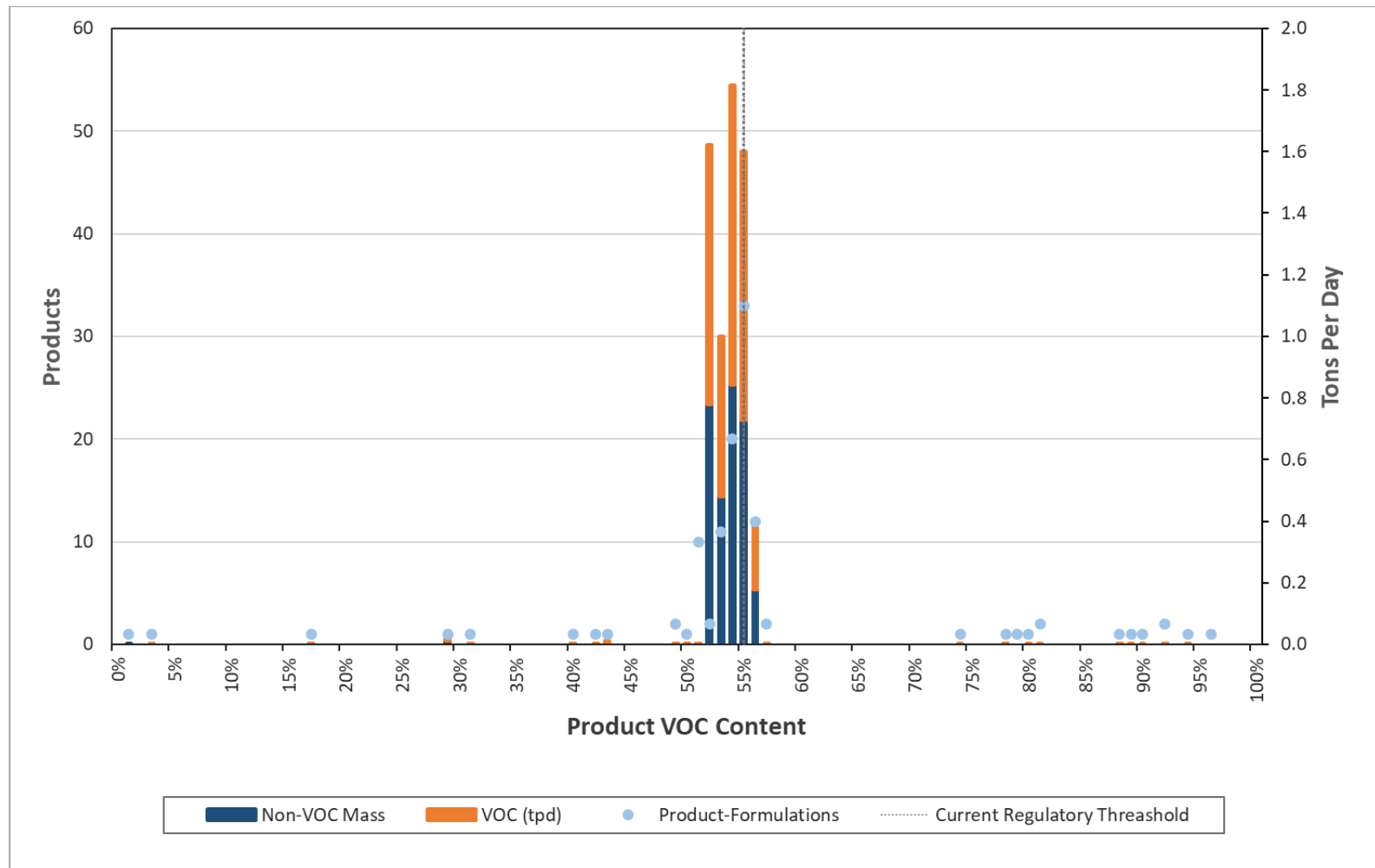
Category Overview:

Hair Finishing Spray -DME Aerosol



Category Overview:

Hair Finishing Spray - DME Aerosol



Category Overview: Hair Finishing Spray

Possible VOC Thresholds

Hair Finishing Spray	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold
Percent VOC	52%	50%	48%	45%
VOC Tons Per Day Reduced	0.41	0.76	0.94	1.66
Complying Market Share (Mass)	19%	8%	8%	8%
Product - Formulations	31%	21%	19%	15%
Number of Companies	57	49	42	39
Number of Products	169	122	89	76



Discussion & Questions



No Rinse Shampoo



Category Overview:

No Rinse Shampoo

“No Rinse Shampoo” means a product designed or labeled solely to be applied to hair that is dry to clean, absorb oil, or eliminate odor, and is subsequently removed from the hair by combing, brushing, or toweling the hair.

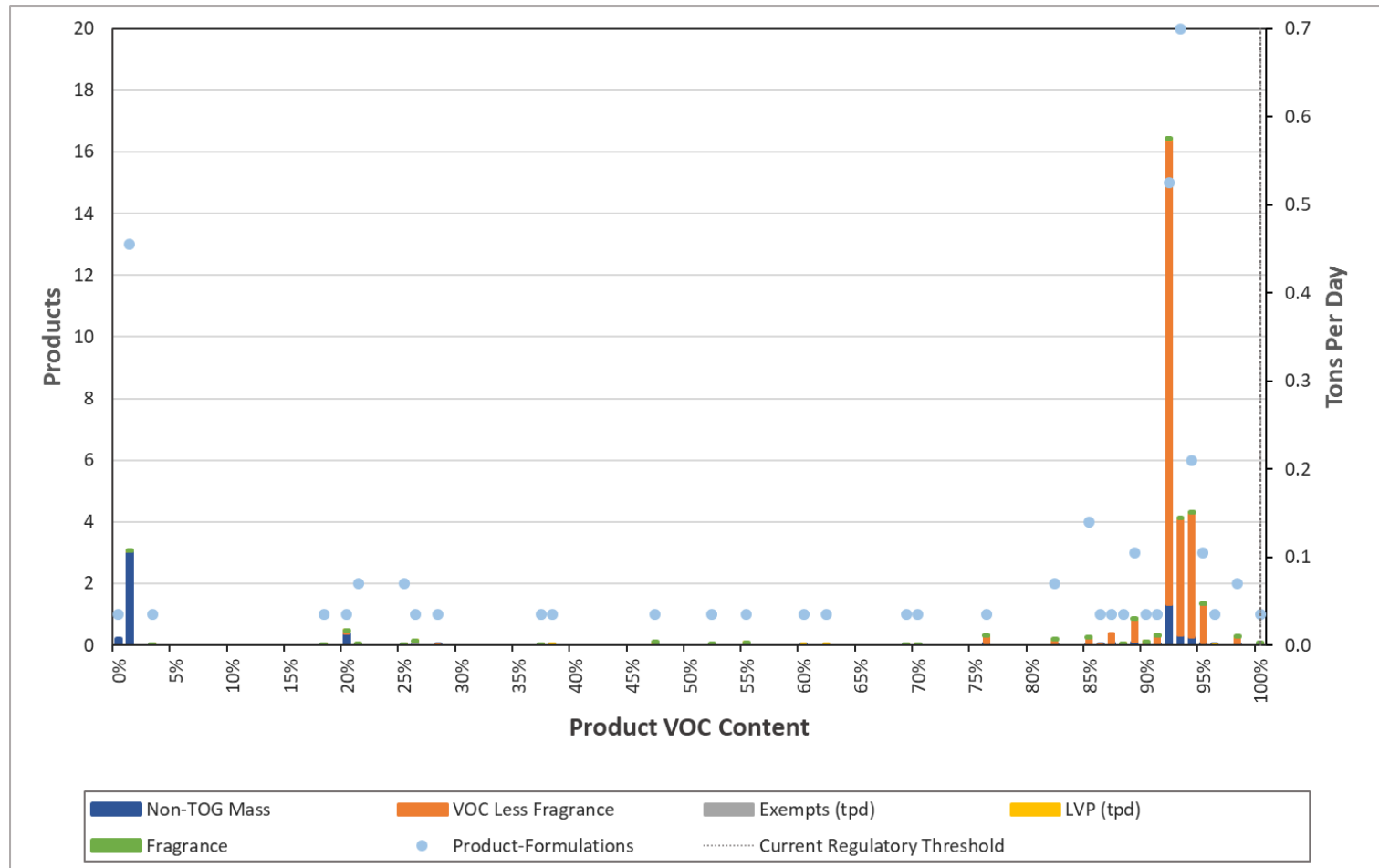


Category Overview:

No Rinse Shampoo

- 325 products surveyed
- 75 companies surveyed
- 1.19 tpd sales
- 0.94 tpd VOC
- 81.2% Sales Weighted Average VOC Content
- No VOC limit
- 0 to 99% VOC in category
- Formulations consists primarily of propellant and ethanol

Category Overview: No Rinse Shampoo



Category Overview:

No Rinse Shampoo

Possible VOC Thresholds

No Rinse Shampoo	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold
Percent VOC	65%	55%	50%	45%
VOC Tons Per Day Reduced	0.27	0.38	0.43	0.48
Complying Market Share (Mass)	15%	15%	15%	15%
Complying Market Share (Product-Formulations)	36%	34%	32%	31%
Number of Companies	26	26	22	21
Number of Products	40	38	37	35



Discussion & Questions



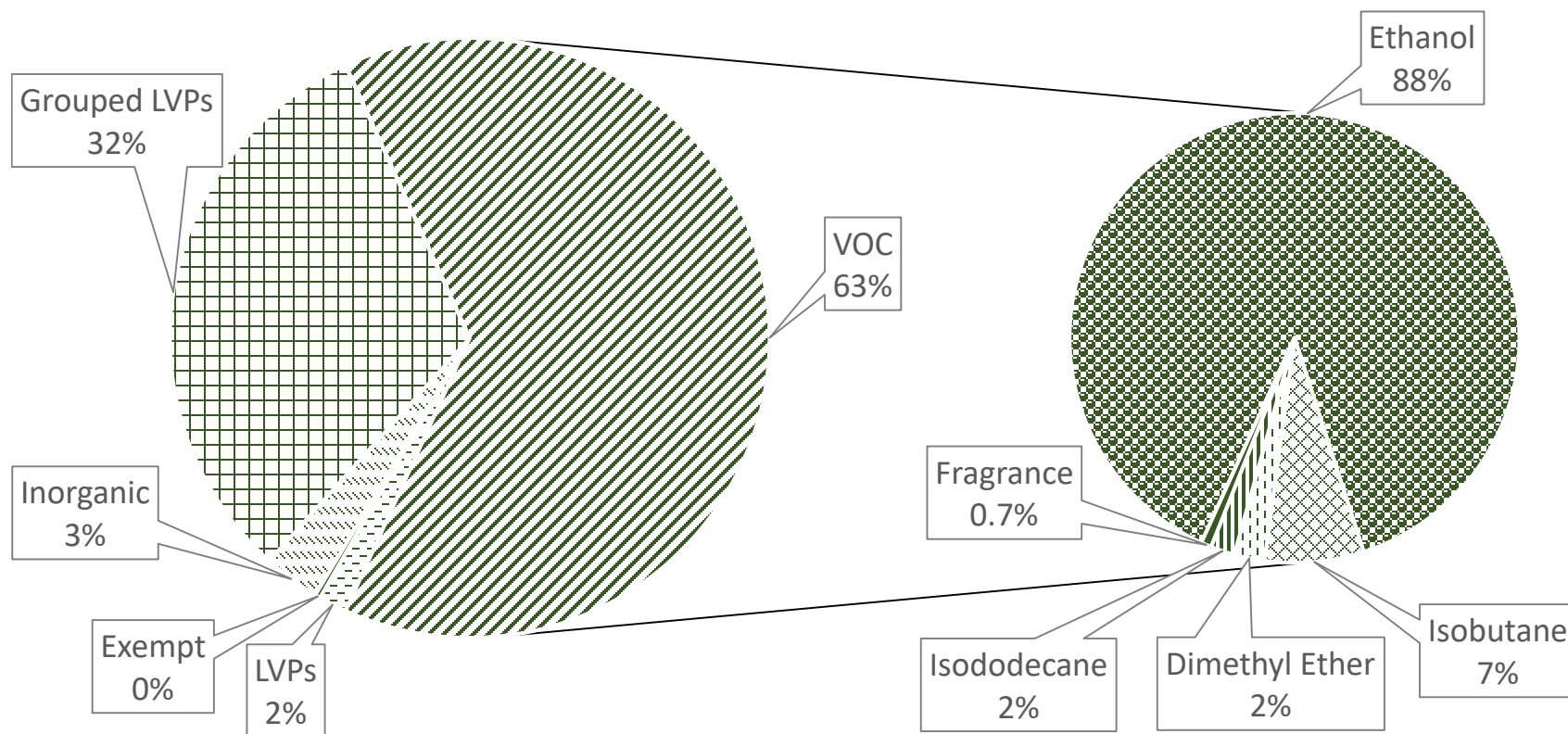
Aerosol Sunscreen



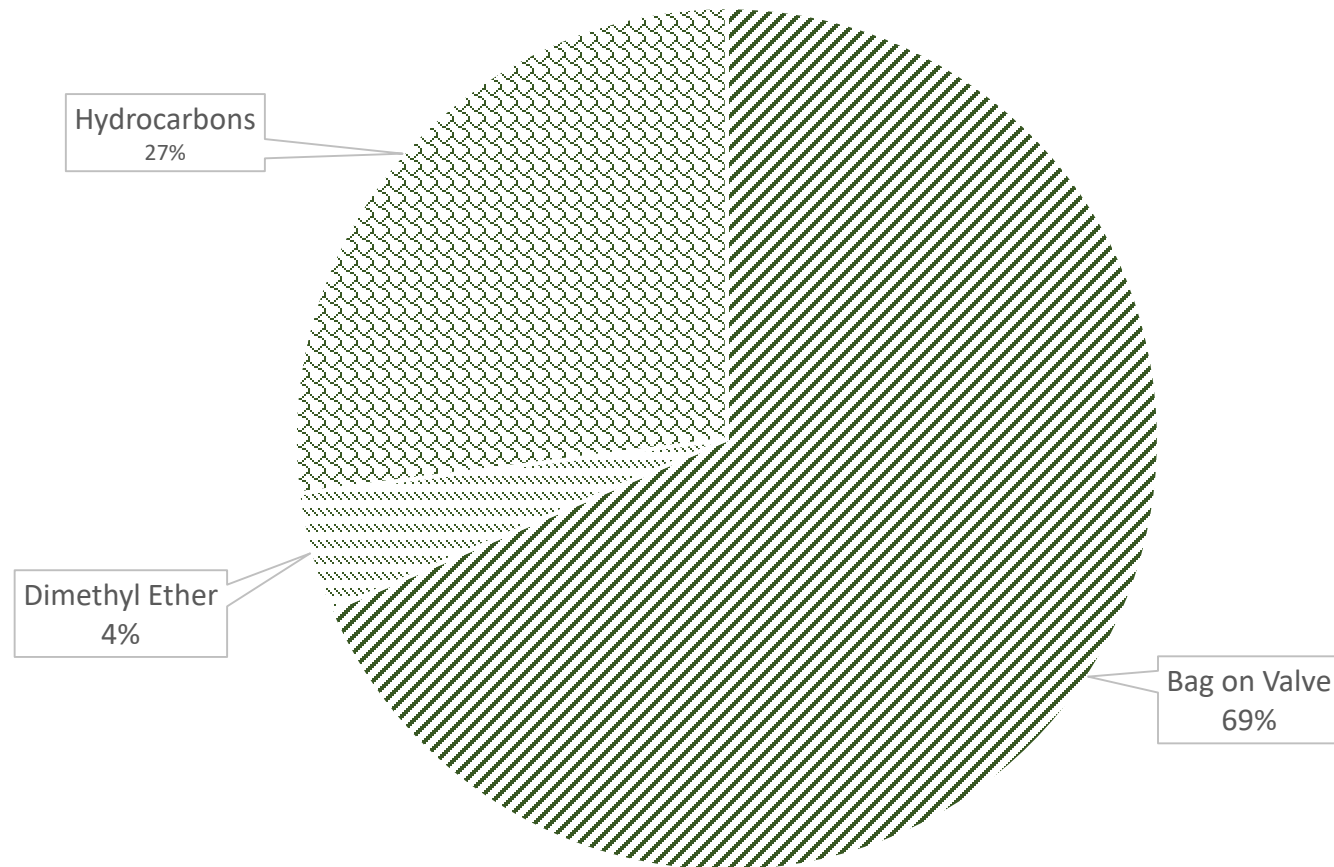
Category Overview: Aerosol Sunscreen

- ❖ “Aerosol Sunscreen” means an aerosol topical product that absorbs or reflects some of the sun’s ultraviolet (UV) radiation and thus helps protect against sunburn.

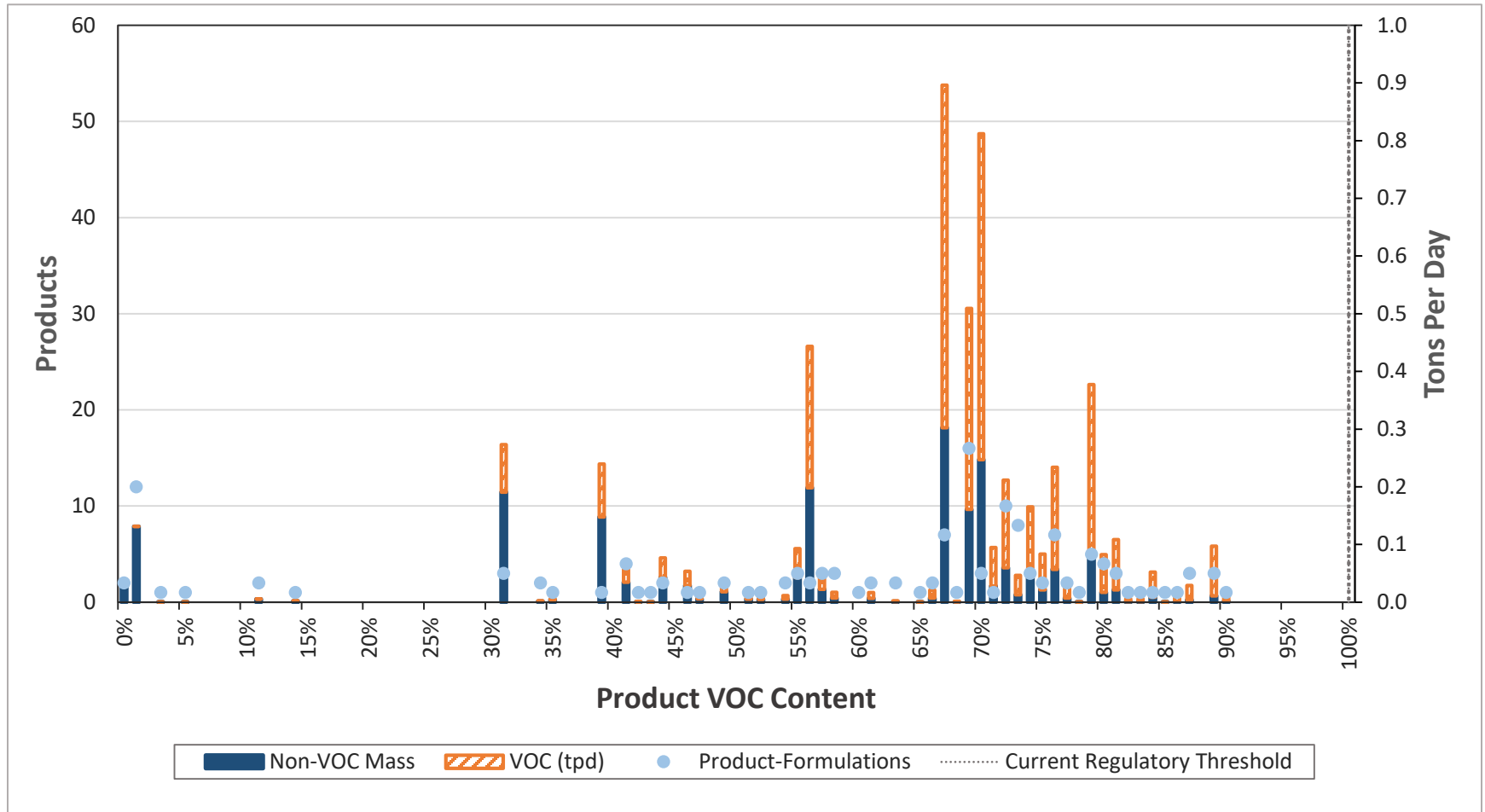
Category Overview: Aerosol Sunscreen Speciation and VOC Breakdown



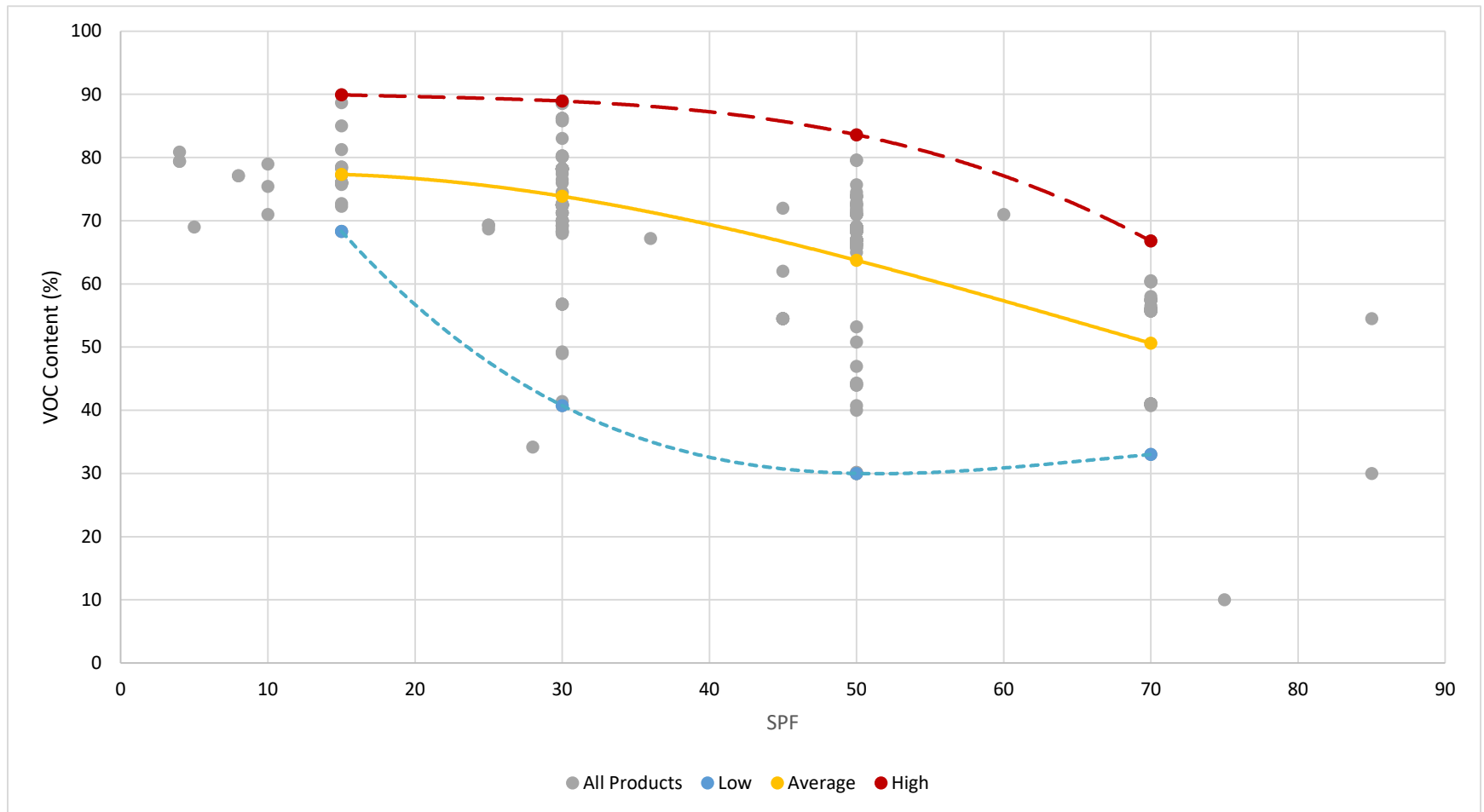
Category Overview: Aerosol Sunscreen Propellant Breakdown by Sales



Category Overview: Aerosol Sunscreen Product Content Breakdown



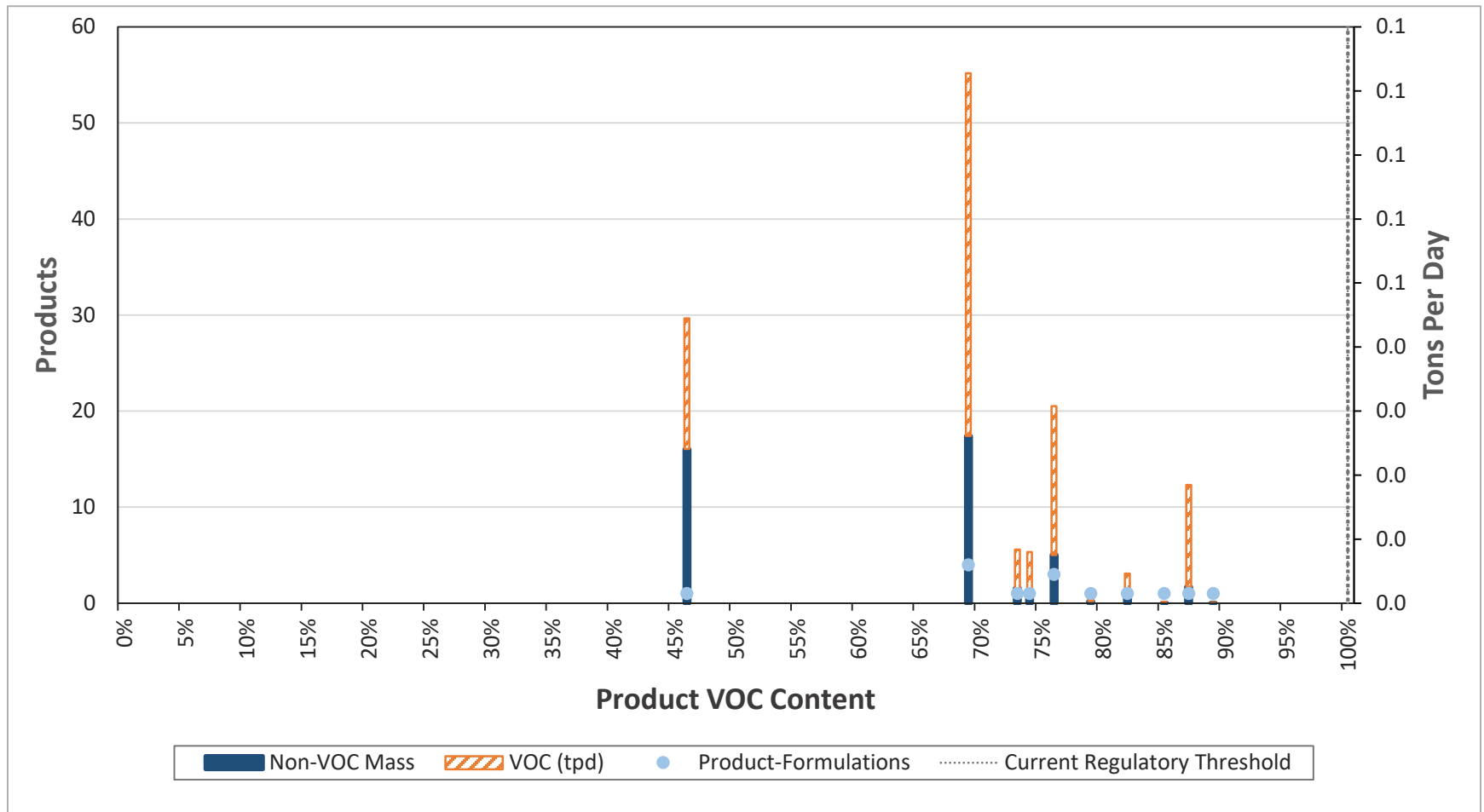
Category Overview: Aerosol Sunscreen Product VOC vs. SPF Claim



Category Overview:

Aerosol Sunscreen

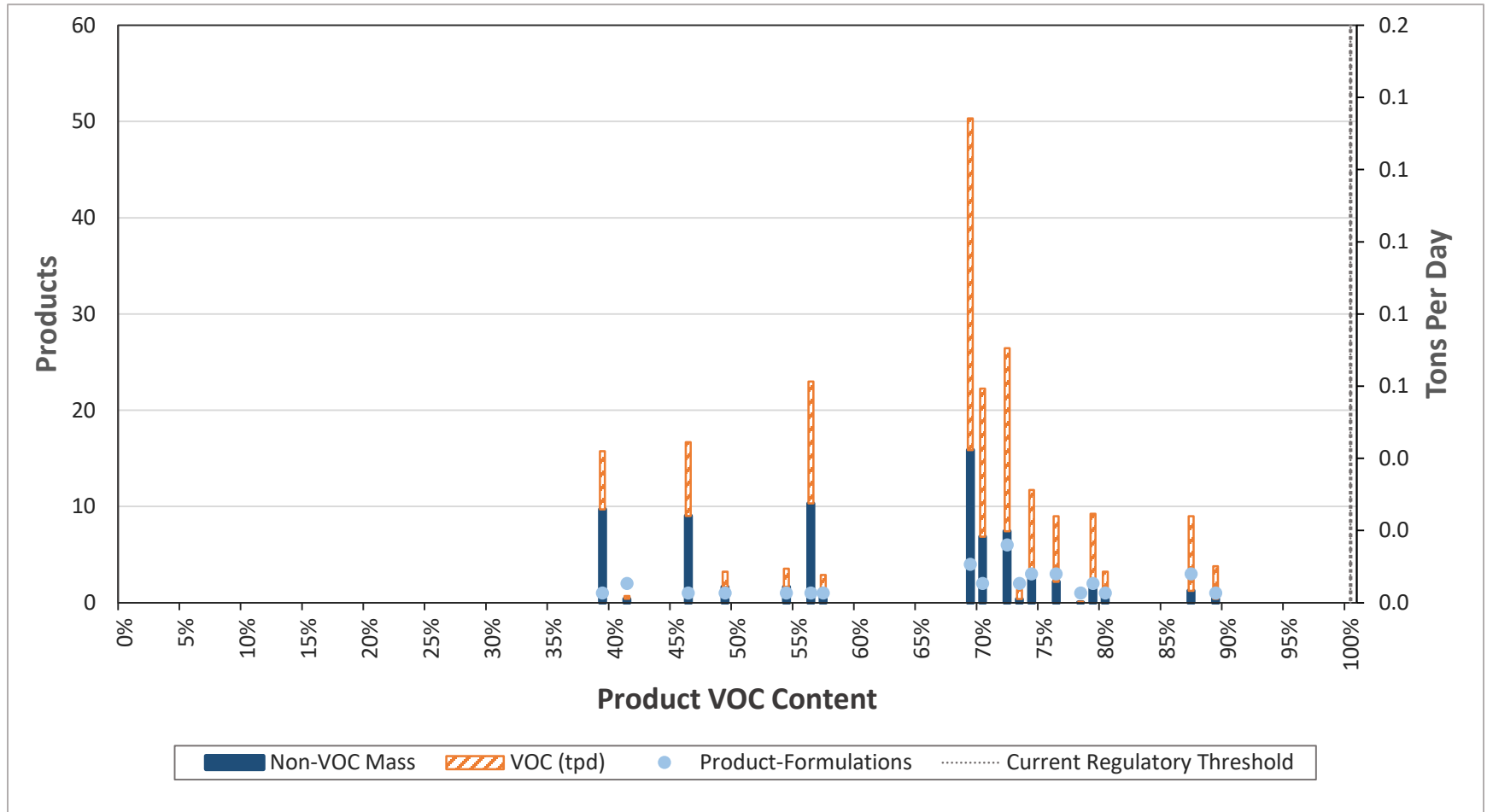
Product Content Breakdown - SPF 15



Category Overview:

Aerosol Sunscreen

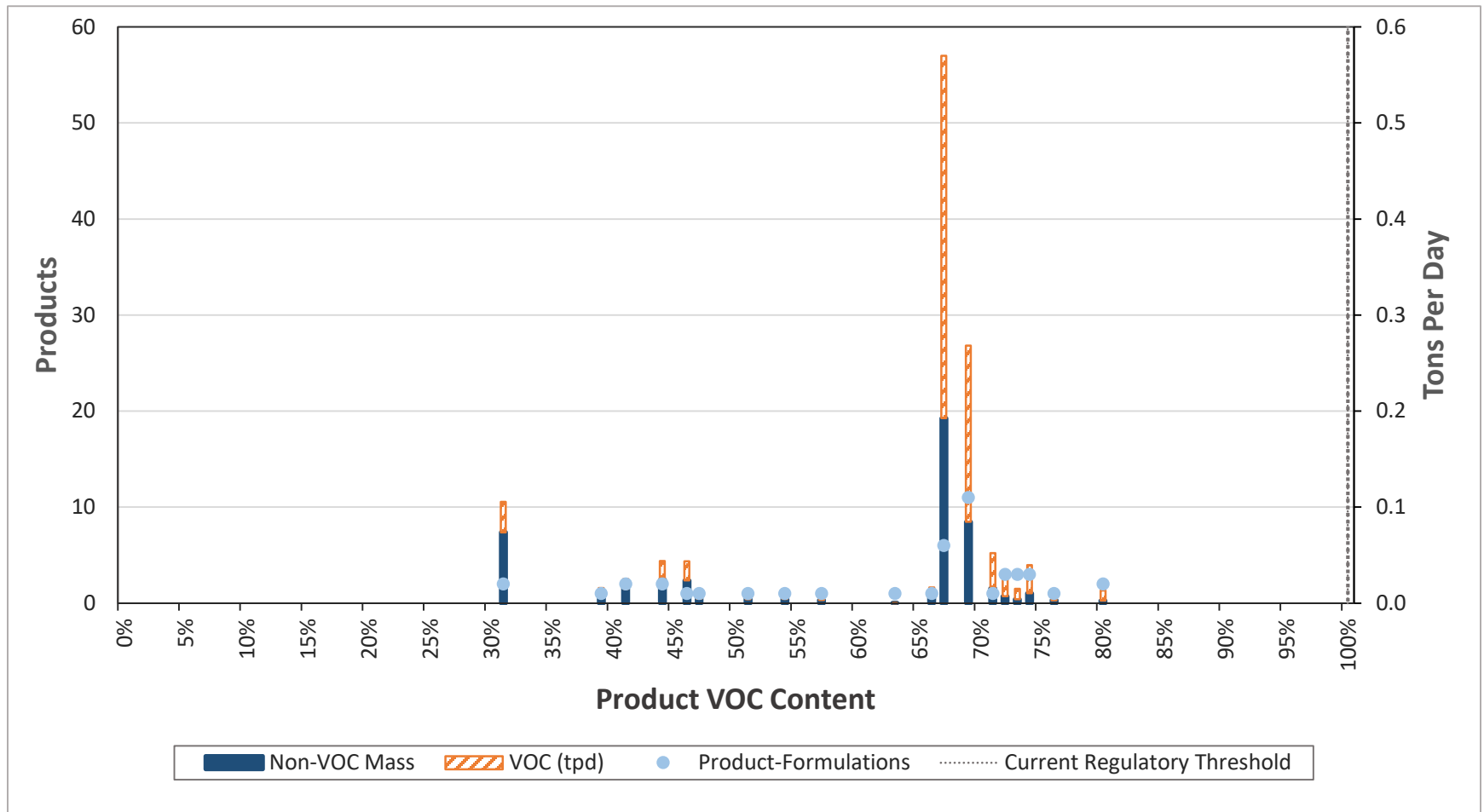
Product Content Breakdown - SPF 30



Category Overview:

Aerosol Sunscreen

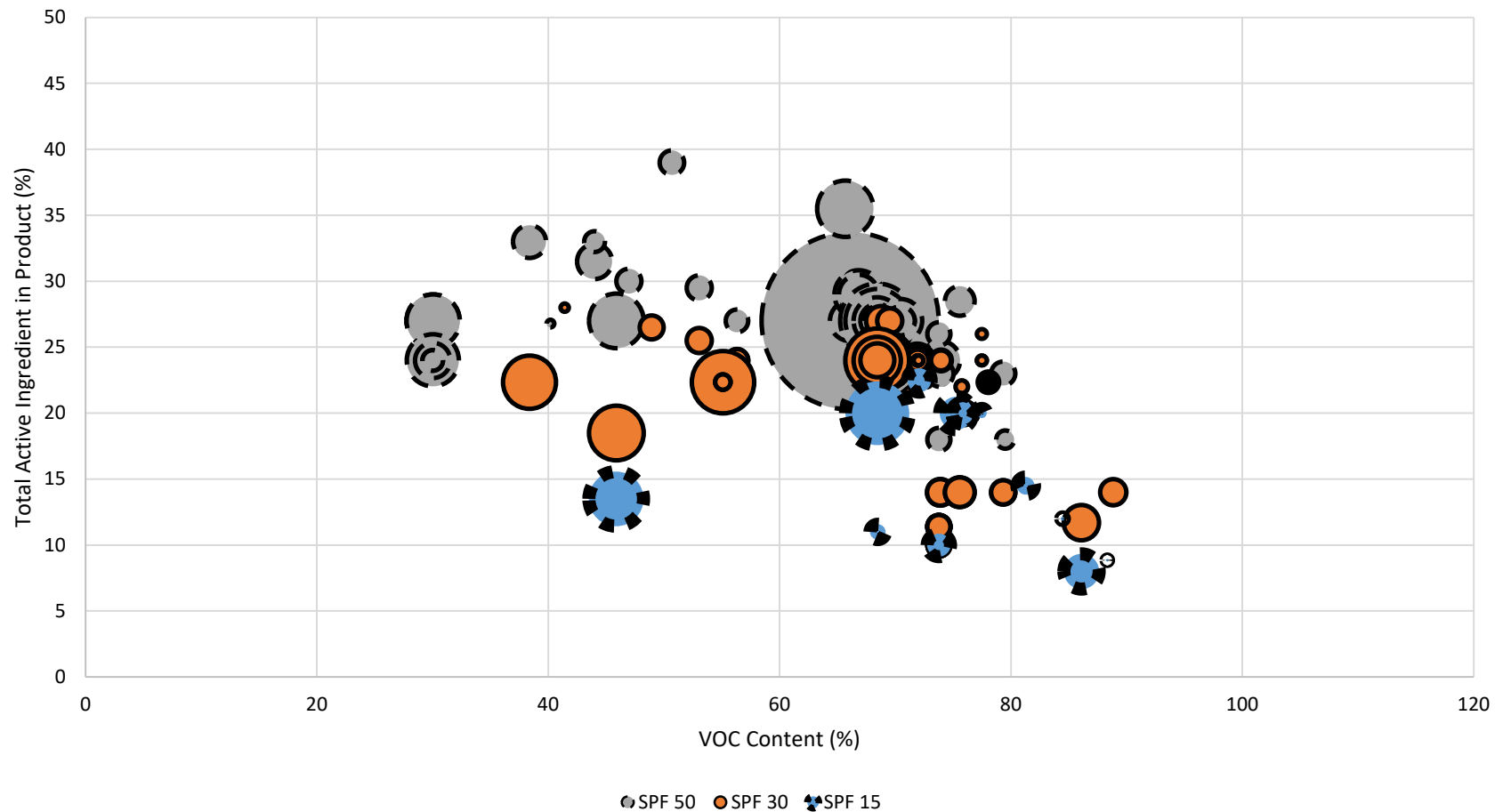
Product Content Breakdown - SPF 50



Category Overview:

Aerosol Sunscreen

VOC vs. Total Active Ingredient in Product



Category Overview:

Aerosol Sunscreen

Possible VOC Thresholds

Aerosol Sunscreen	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold
Percent VOC	45	50	55	60
VOC Tons Per Day Reduced	1.13	0.90	0.68	0.48
Complying Market Share (Product-Formulations)	23%	26%	31%	37%
Complying Market Share (Mass)	15%	17%	19%	28%
Number of Companies	6	7	8	9
Number of Products	31	35	46	64



Discussion & Questions



Mouthwash/Rinse

Category Overview:

Mouthwash/Rinse

❖ Therapeutic:

- ❖ Therapeutic mouthwash is a rinse with active ingredients that kill bacteria and help reduce plaque, gingivitis, cavities and bad breath. Those that contain fluoride help prevent or reduce tooth decay.

❖ Cosmetic:

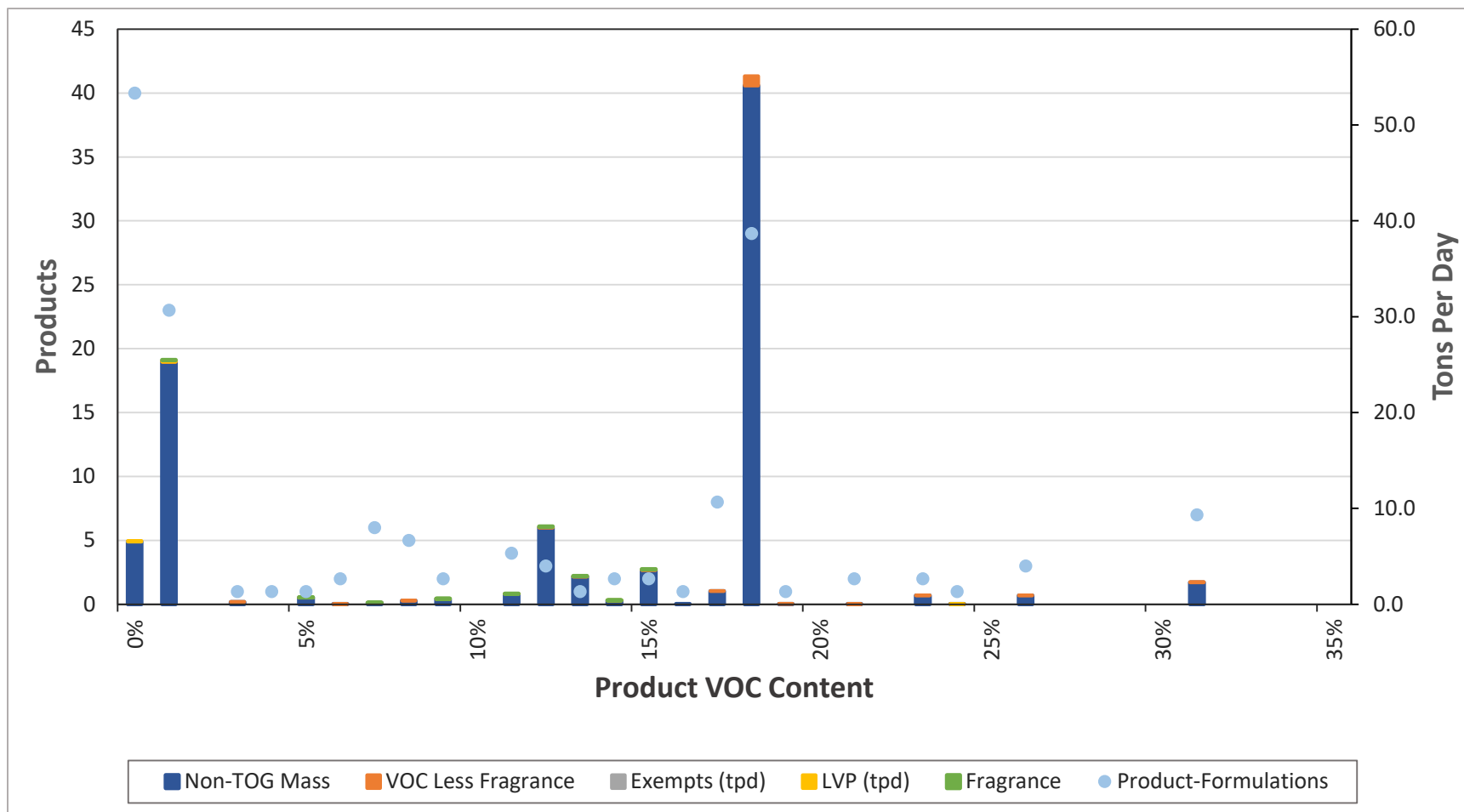
- ❖ Cosmetic mouthwash is a rinse that may temporarily control or reduce bad breath and leave behind a pleasant taste. They do not reduce the risk of cavities or gum disease.



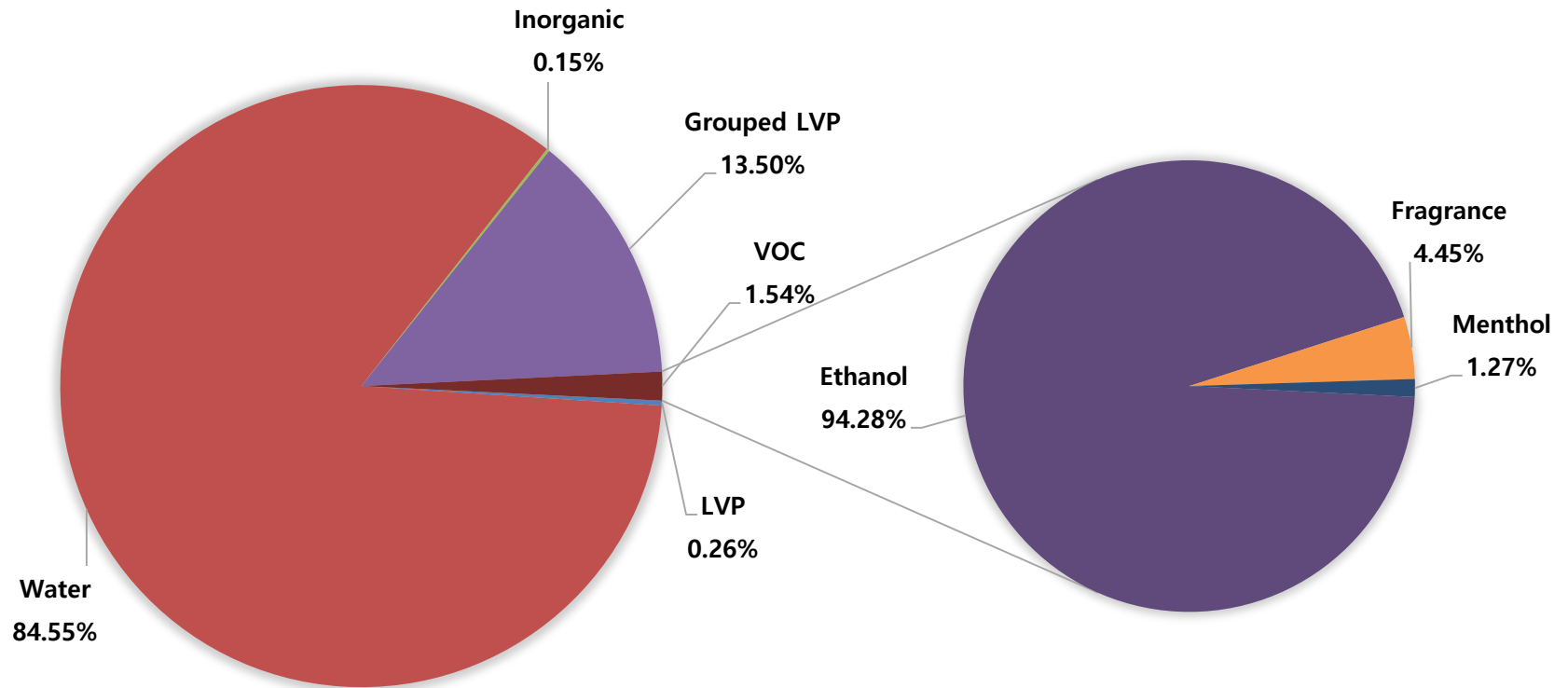
Mouthwash/Rinse

Number of Companies	41
Number of Products	514
Sales (tpd)	111
VOC Mass (tpd)	1.35
SWA VOC (%)	12.44
TOG MIR (gO₃/gTOG)	1.86

Mouthwash Overall



Mouthwash Overall VOC Breakdown

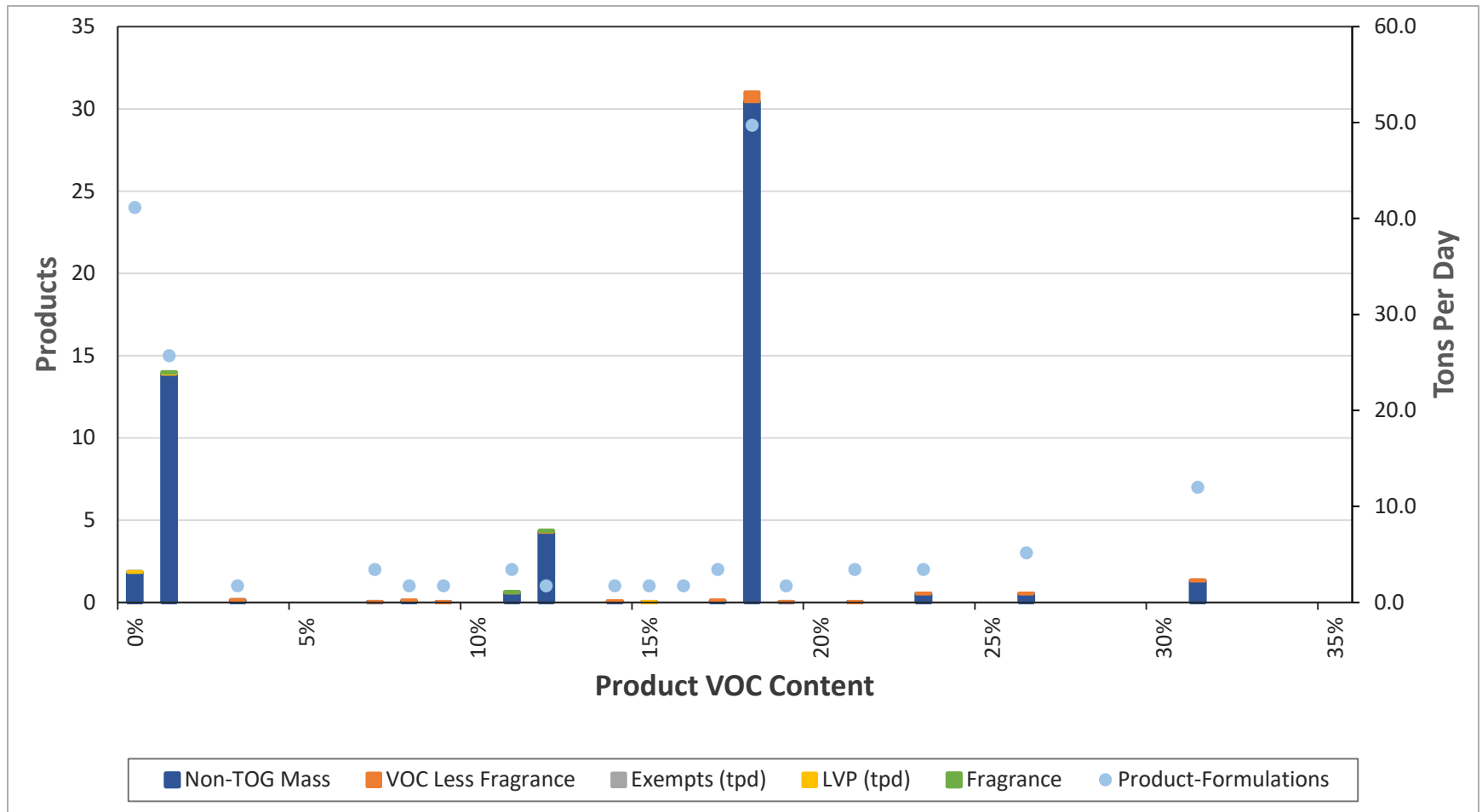




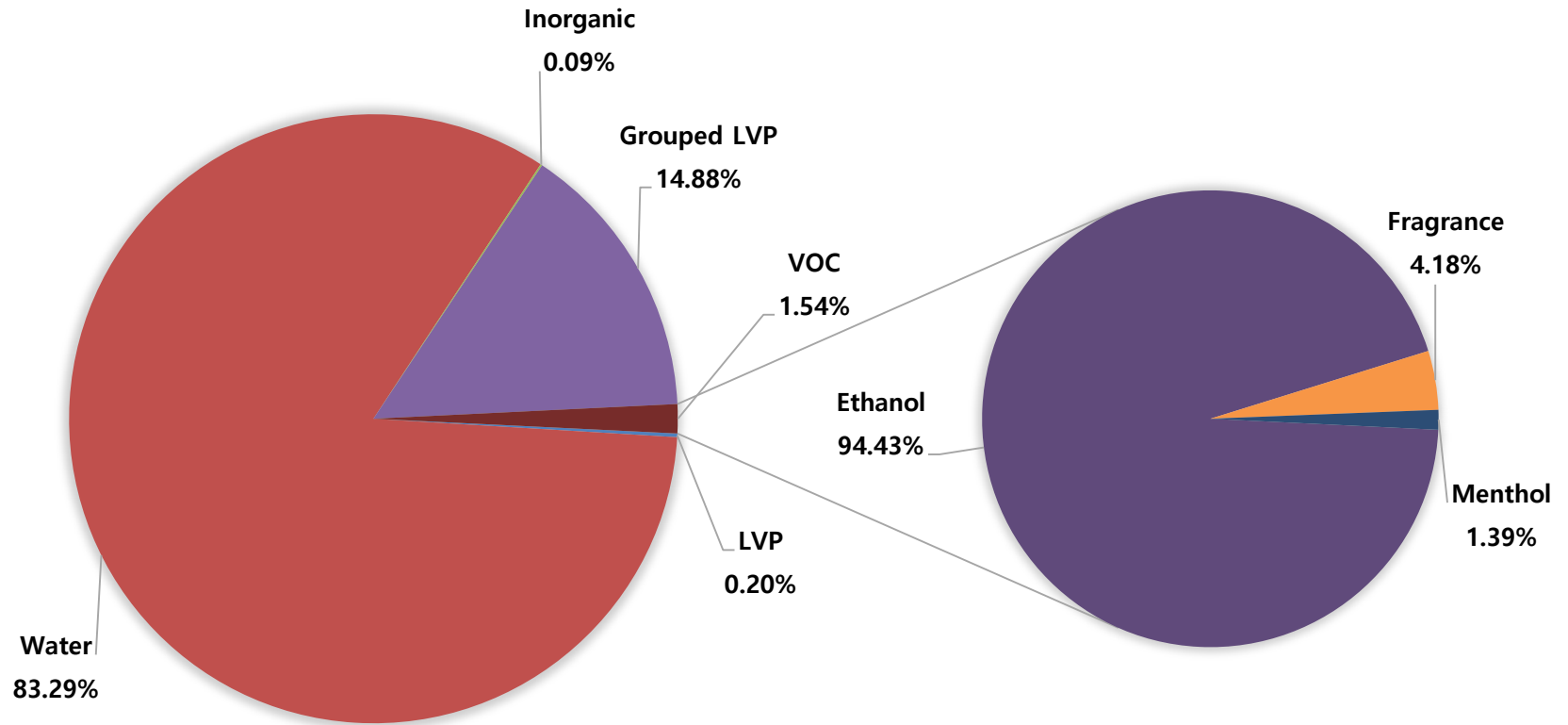
Therapeutic Mouthwash/Rinse

Number of Companies	21
Number of Products	355
Sales (tpd)	94
VOC Mass (tpd)	1.18
SWA VOC (%)	12.87
TOG MIR (gO₃/gTOG)	1.78

Therapeutic Mouthwash



Therapeutic Mouthwash VOC Breakdown

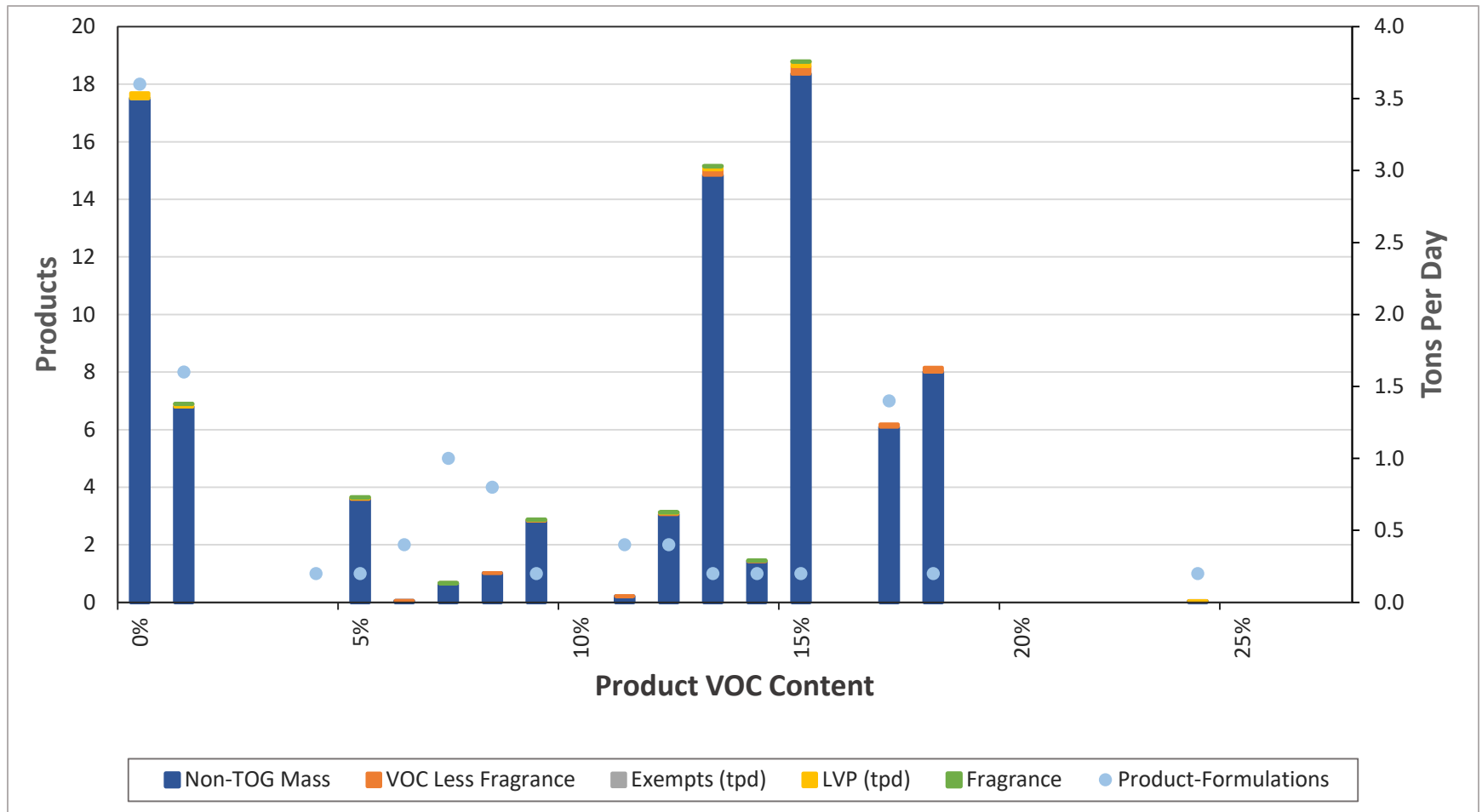




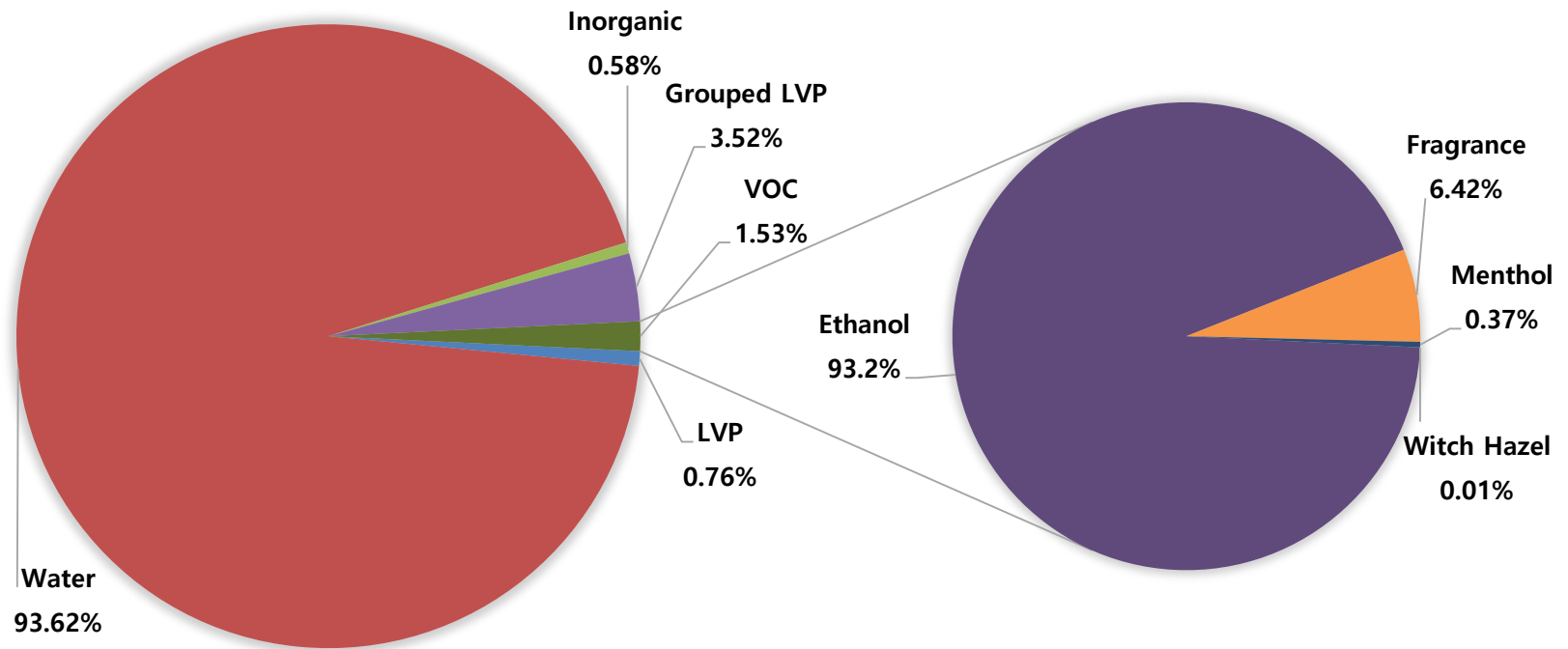
Cosmetic Mouthwash/Rinse

Number of Companies	36
Number of Products	159
Sales (tpd)	17
VOC Mass (tpd)	0.17
SWA VOC (%)	9.96
TOG MIR (gO₃/gTOG)	2.22

Cosmetic Mouthwash



Cosmetic Mouthwash VOC Breakdown

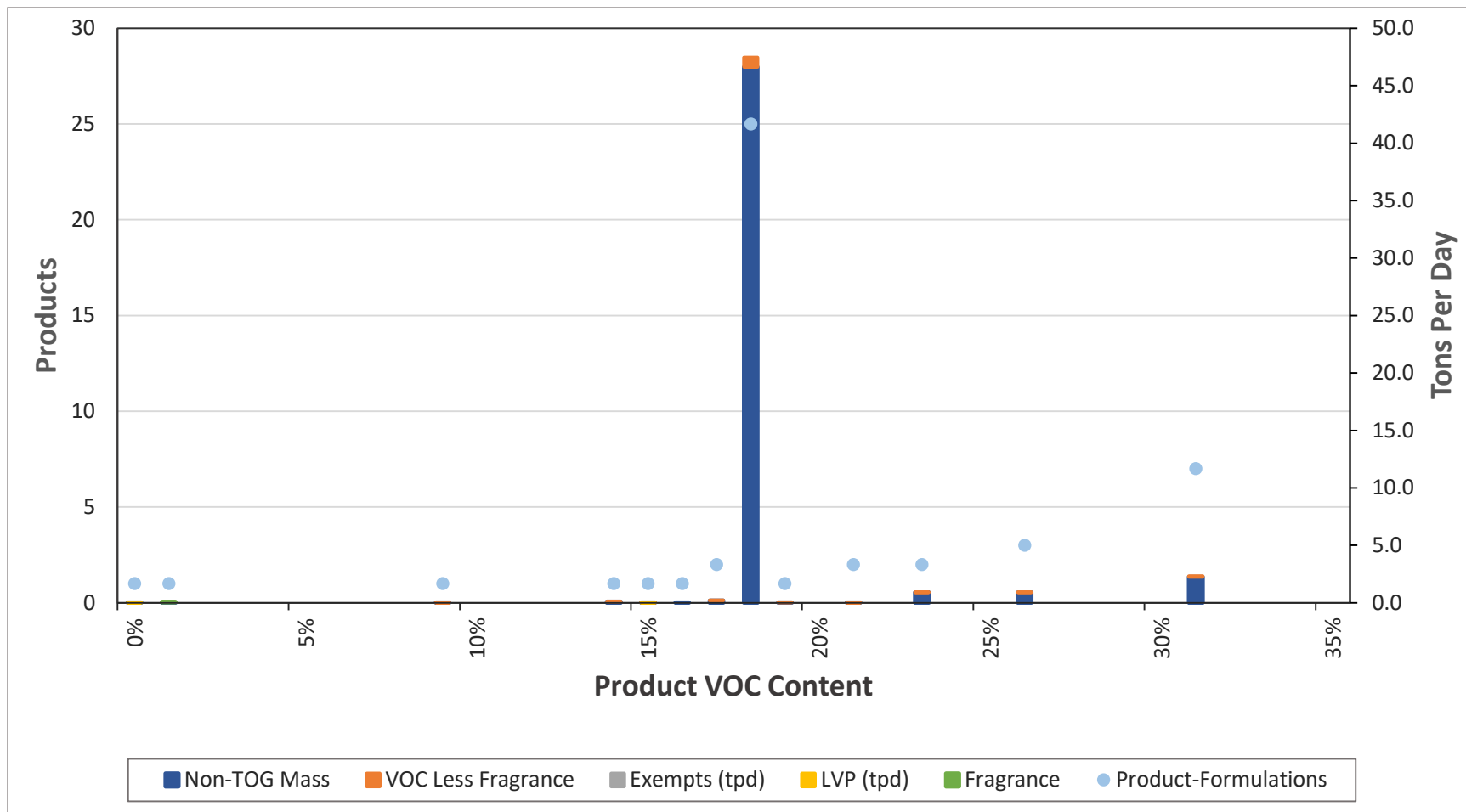




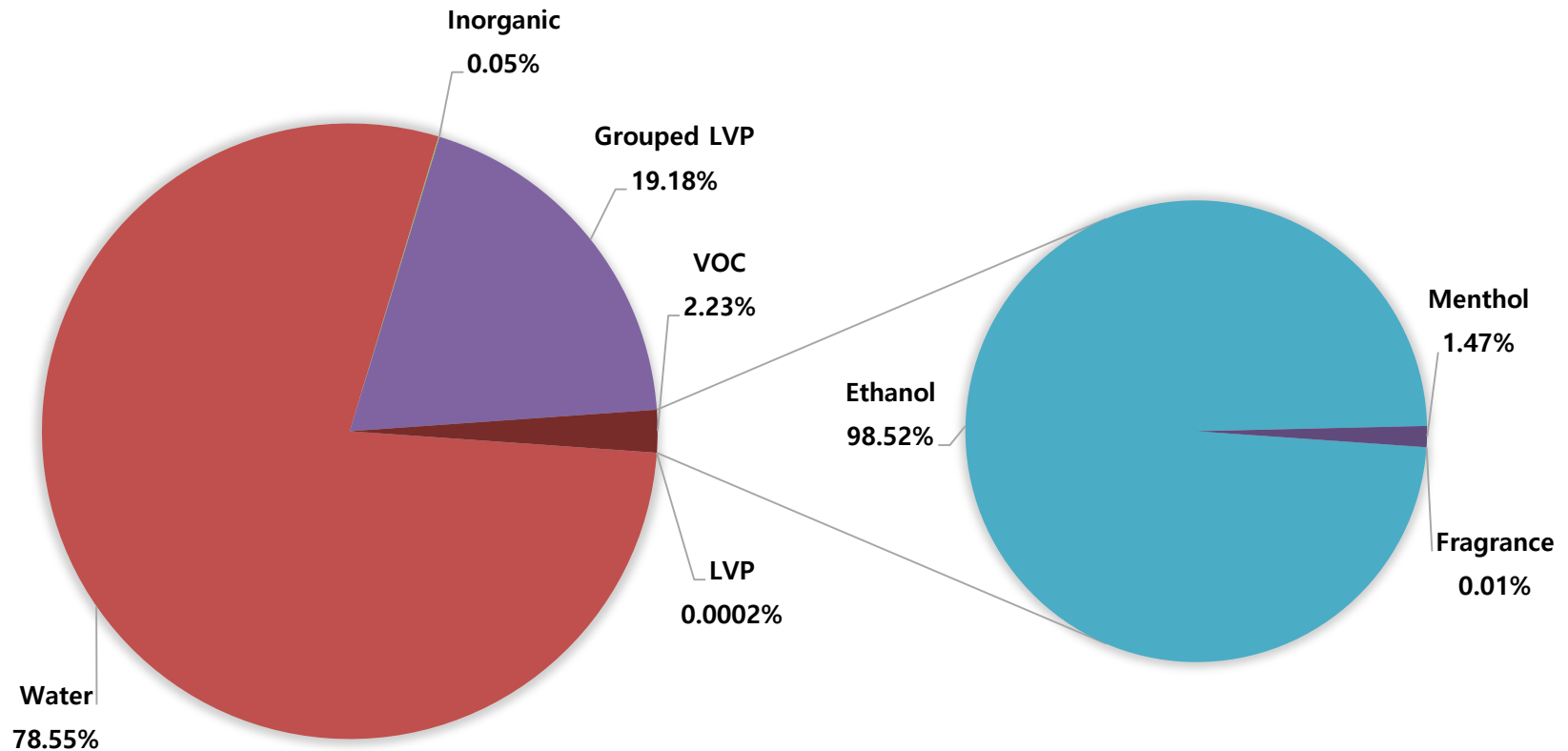
Therapeutic Mouthwash/Rinse with Essential Oils

Number of Companies	17
Number of Products	194
Sales (tpd)	52
VOC Mass (tpd)	0.97
SWA VOC (%)	18.78
TOG MIR (gO₃/gTOG)	1.53

Therapeutic Mouthwash with Essential Oils



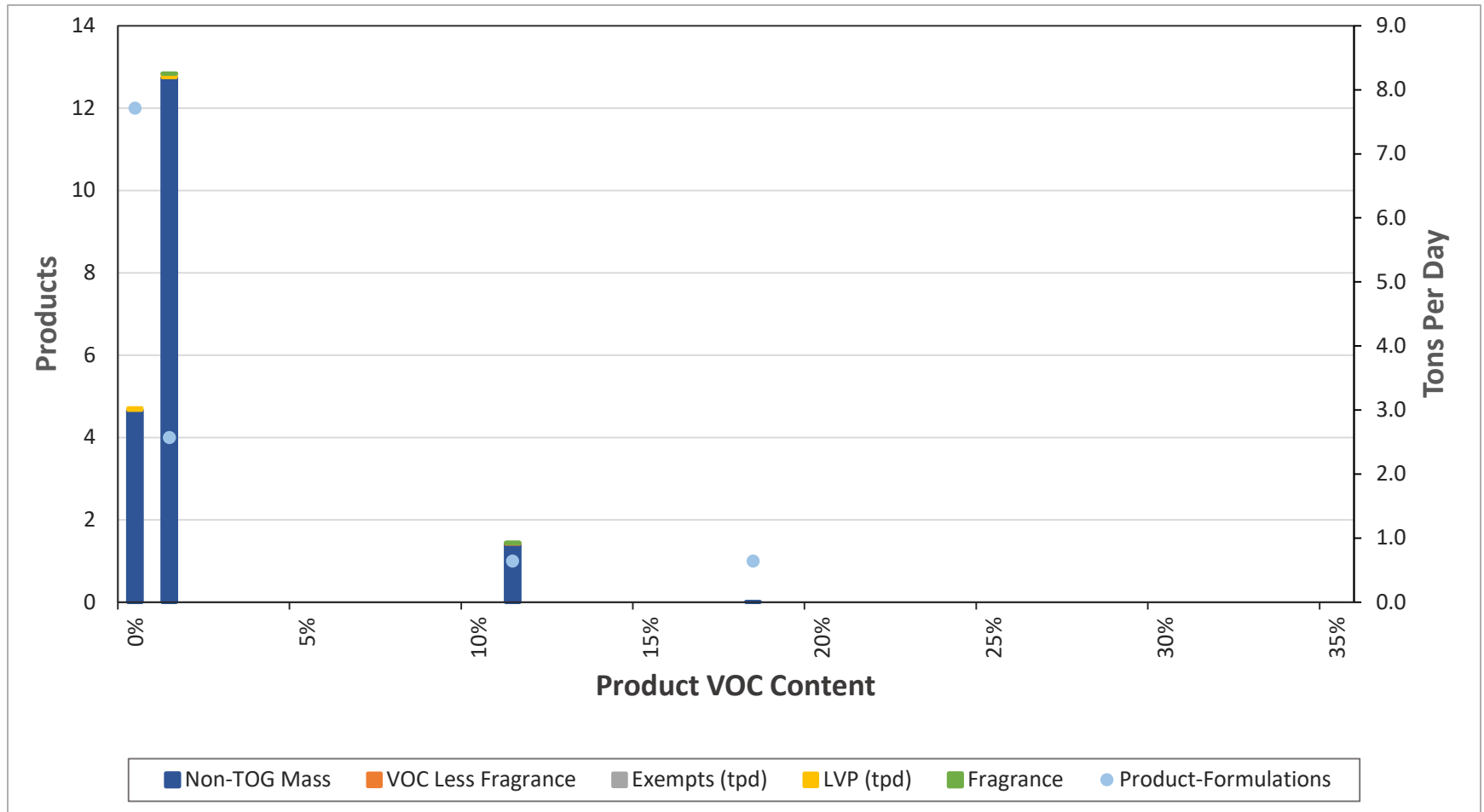
Therapeutic Mouthwash with Essential Oils VOC Breakdown



Therapeutic Mouthwash/Rinse with CPC

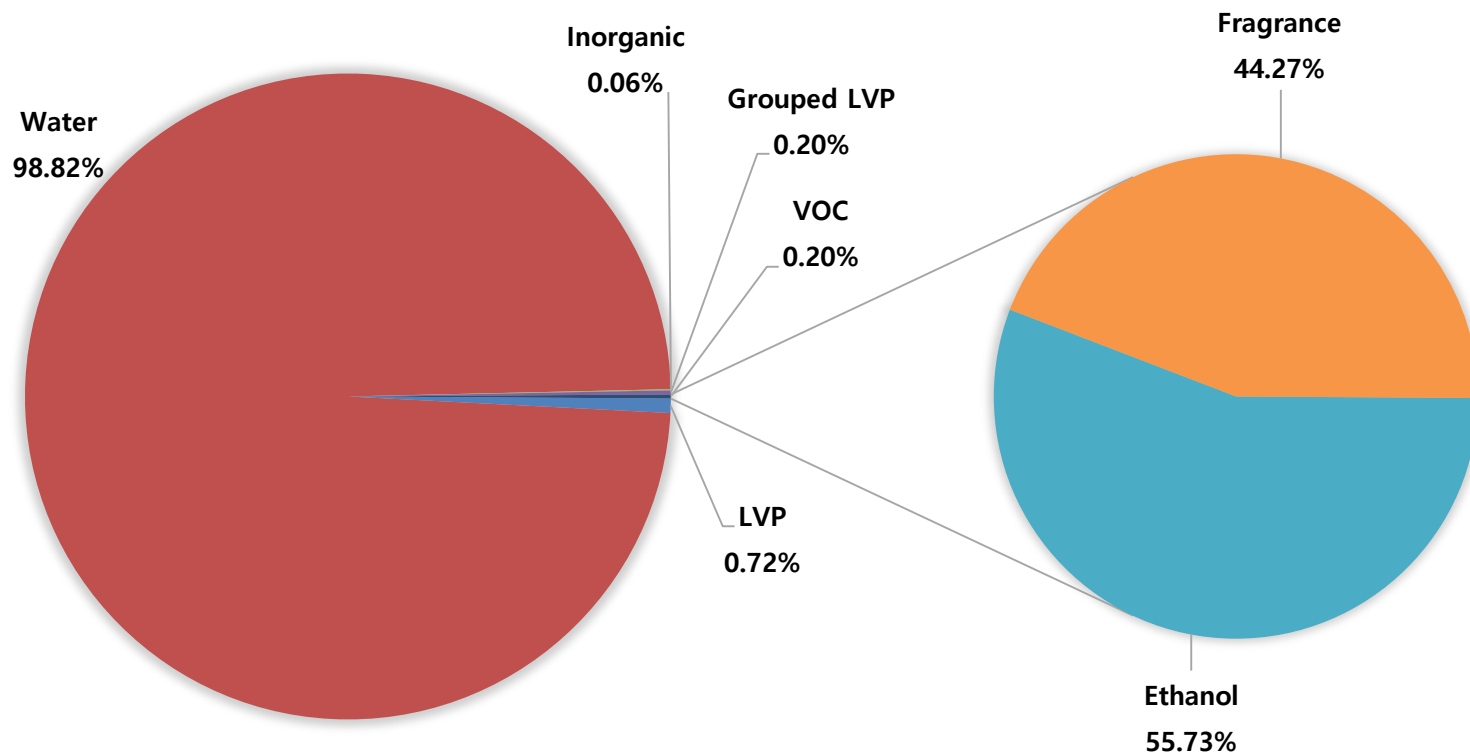
Number of Companies	12
Number of Products	70
Sales (tpd)	12
VOC Mass (tpd)	0.01
SWA VOC (%)	1.51
TOG MIR (gO₃/gTOG)	2.91

Therapeutic Mouthwash with CPC



Therapeutic Mouthwash with CPC

VOC Breakdown

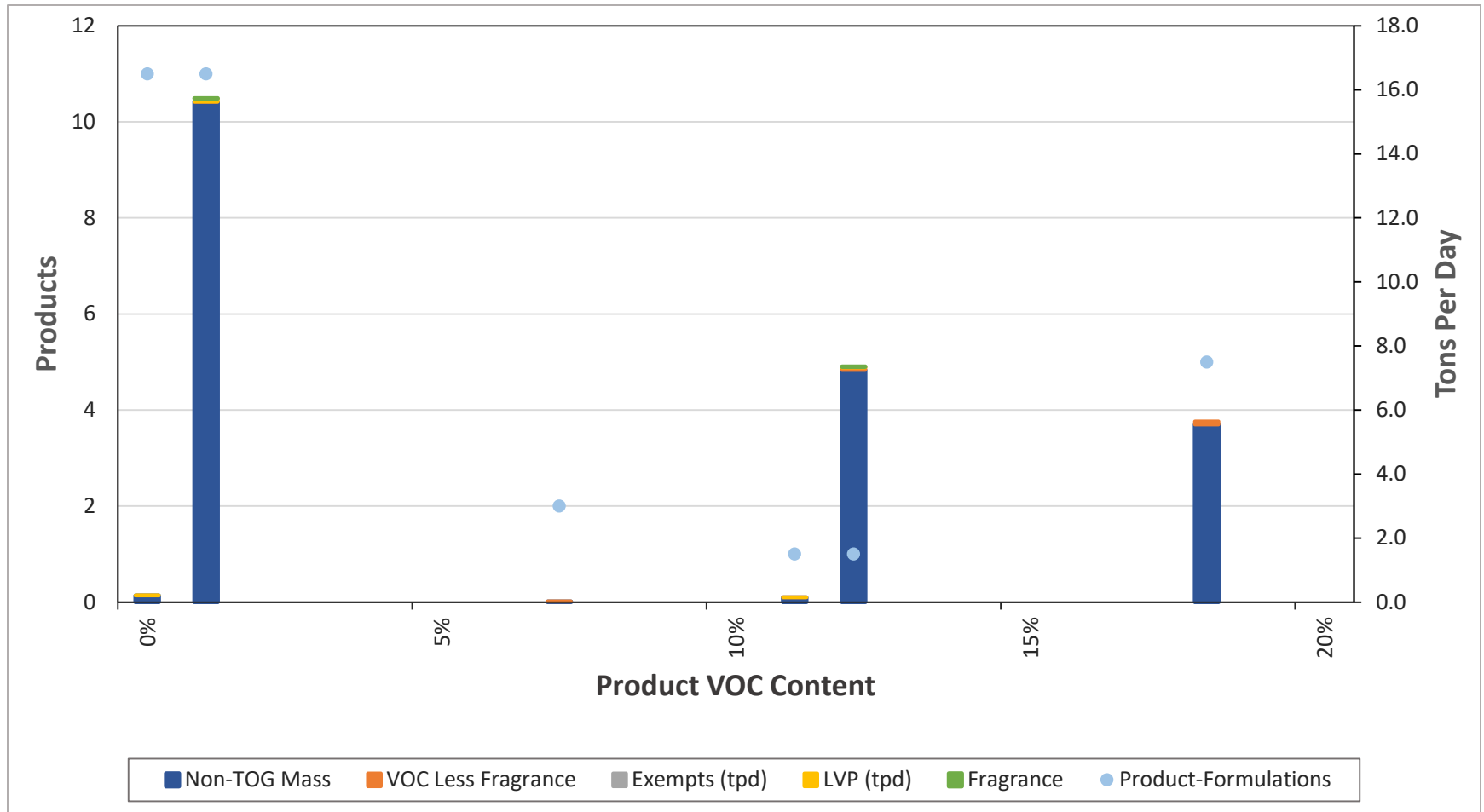




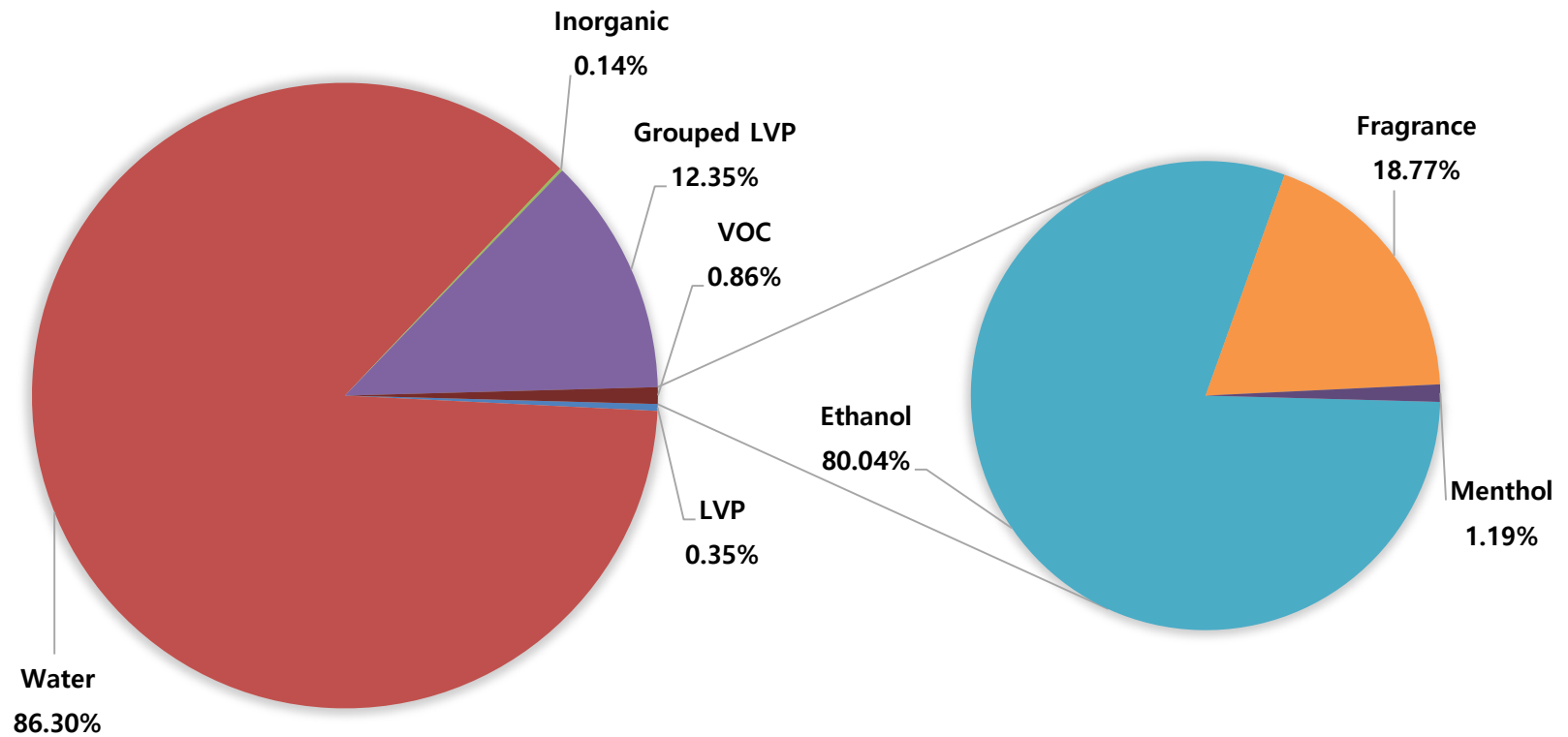
Therapeutic Mouthwash/Rinse with Fluoride

Number of Companies	13
Number of Products	86
Sales (tpd)	29
VOC Mass (tpd)	0.2
SWA VOC (%)	7.13
TOG MIR (gO₃/gTOG)	2.16

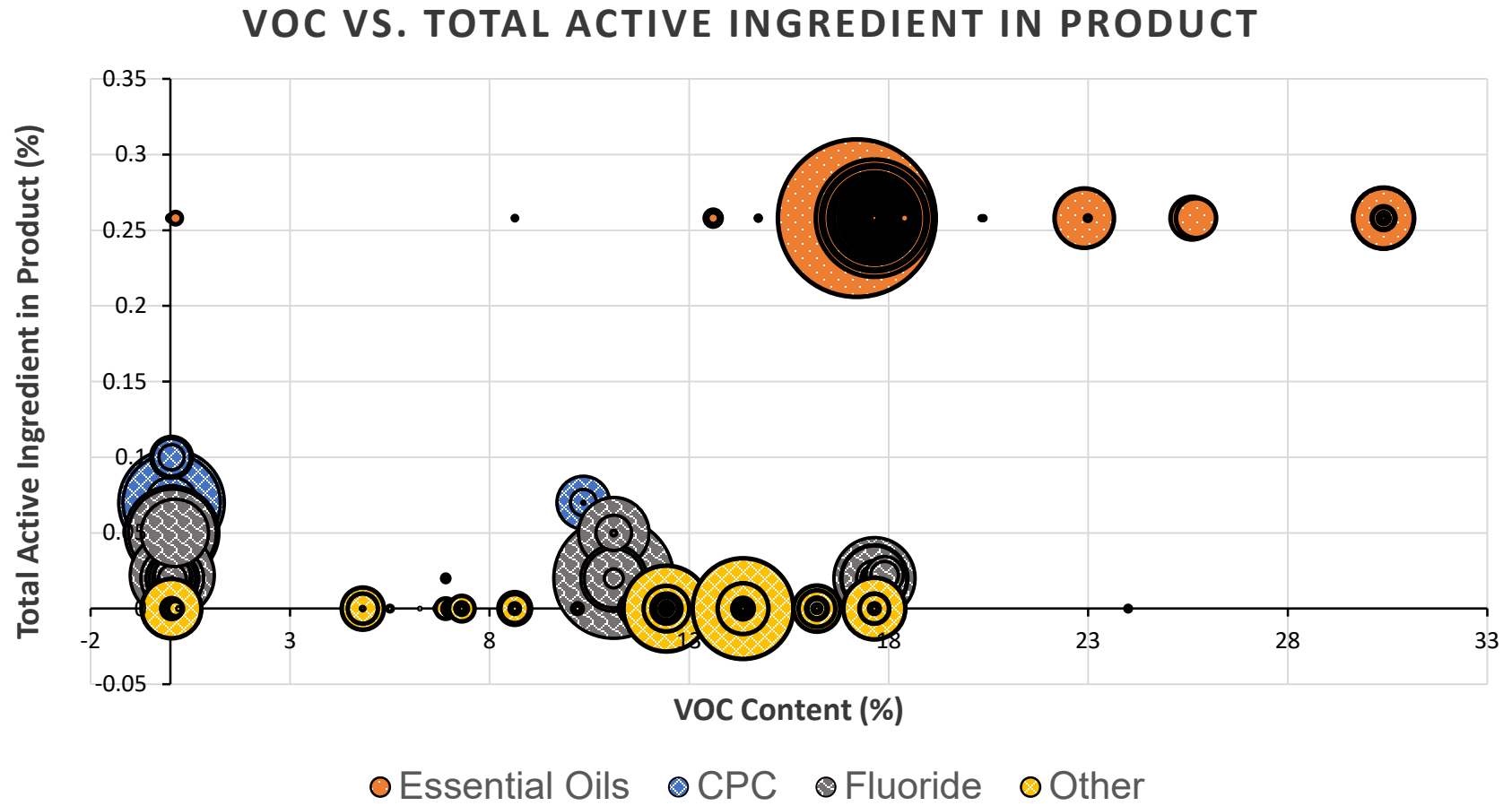
Therapeutic Mouthwash with Fluoride



Therapeutic Mouthwash with Fluoride VOC Breakdown



Therapeutic Mouthwash Active Ingredient Bubble Graph



Therapeutic Mouthwash/Rinse ADA Product Comparison

Therapeutic Mouthwash/Rinse	Product 1	Product 2	Product 3
VOC Weight %	17%	18%	30%
Claims	Antigingivitis/ Antiplaque	Antigingivitis/ Antiplaque	Antigingivitis/ Antiplaque
Active Ingredient	Essential Oils	Essential Oils	Essential Oils
Alcohol	Yes	Yes	Yes
ADA Seal	Yes	Yes	Yes

Therapeutic Mouthwash/Rinse ADA Product Comparison

Therapeutic Mouthwash/Rinse	Product 1	Product 2	Product 3
VOC Weight %	0%	0.05%	0.11%
Claims	Anticavity	Anticavity	Anticavity
Active Ingredient	Fluoride	Fluoride	Fluoride
Alcohol	No	No	No
ADA Seal	Yes	Yes	Yes

Mouthwash/Rinse Possible Thresholds

Possible Thresholds	17% Limit for Essential Oils 1% for Remaining	17% Limit for Essential Oils 5% for Remaining	17% Limit for Essential Oils 10% for Remaining
VOC Tons Per Day Reduced	0.43	0.33	0.20
Product-Formulations (Essential Oils)	17%	17%	17%
Product-Formulations (Remaining)	60%	63%	76%
Complying Market Share (Mass/Essential Oils)	1%	1%	1%
Complying Market Share (Mass/Remaining)	55%	56%	58%
Number of Companies (Essential Oils)	4	4	4
Number of Companies (Remaining)	26	27	28
Number of Products (Essential Oils)	9	9	9
Number of Products (Remaining)	133	137	162



Mouthwash/Rinse Proposed Thresholds

Possible Thresholds	1% VOC Limit	5% VOC Limit	10% VOC Limit
VOC Tons Per Day Reduced	1.26	0.95	0.57
Product-Formulations	43%	45%	55%
Complying Market Share (Mass)	29%	30%	31%
Number of Companies	26	27	28
Number of Products	135	139	165



Discussion & Questions



Personal Care Fragrance Categories

Workgroup Overview:

- ❖ Personal Fragrance Product with 20% fragrance or less
- ❖ Antiperspirant
- ❖ Deodorant

Personal Care Fragrance (PFP) Article 2 and PFP VOC Exemptions:

- ❖ Article 2 exemption:

- ❖ Volatile organic compounds

- $VP < 0.10 \text{ mm Hg @ } 20^{\circ}\text{C}$

- ❖ PFP Exemption

- ❖ fragrance



Deodorants and Antiperspirants

Article 1 VOC Exemptions:

- ❖ Ethanol
- ❖ Volatile organic compounds
 - VP < 2.0 mm Hg @ 20°C
- ❖ fragrances and colorants up to combined level of 2 percent



Category Definition:

Personal Fragrance Product

❖ ***“Personal Fragrance Product” means any product which is applied to the human body or clothing for the primary purpose of adding a scent or masking a malodor, including, but not limited to, cologne, perfume, aftershave, toilet water, lotion, powder, body mist, and body spray.***



Category Definition:

Personal Fragrance Product - continued

❖ *does not include:*

(A) *Deodorant...;*

(B) *medicated products...;*

(C) *mouthwashes,...;*



Category Definition:

Personal Fragrance Product - continued

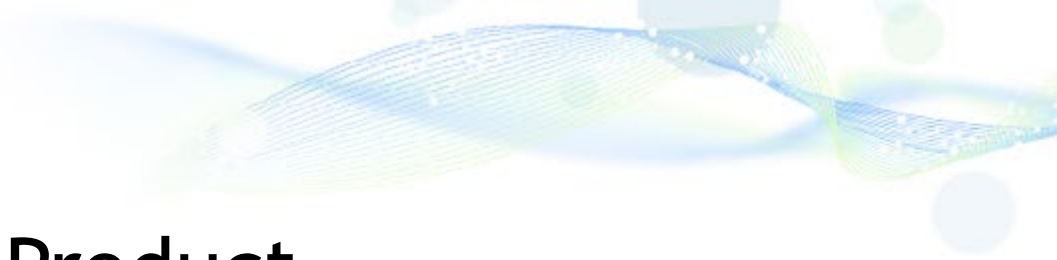
❖ *does not include:*

(D) lotions...powders...to alleviate dryness and irritations;

(E) products...to be applied to human genitalia areas...;

(F) soaps...;and

(G) fragrance products...to be used on...animals.



Category Limits:

Personal Fragrance Product

- ❖ Products with 20% or less fragrance:
 - ❖ 75% VOC w/w
- ❖ Products with more than 20% fragrance:
 - ❖ 65% VOC w/w

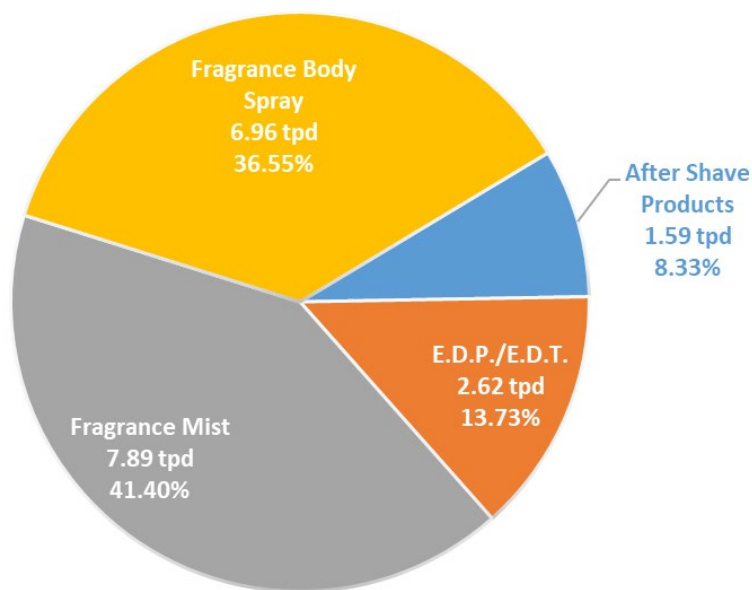
Category Overview:

Personal Fragrance Products with 20% or less Fragrance

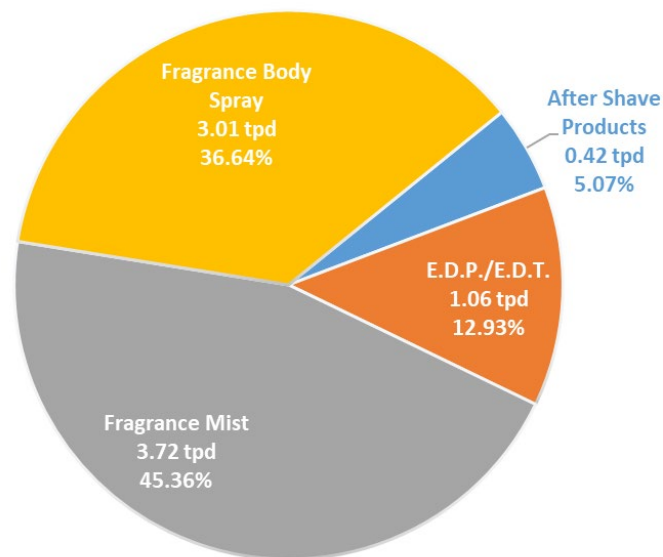
Reporting Companies	160
Reported Products	14,011
SWA-VOC Content	69.15%
VOC (tpd)	11.45
SWA-Fragrance Content	1.31%
Fragrance (tpd)	0.06

Subcategory Sales and VOC Mass: Personal Fragrance Products with 20% or less Fragrance

Percentage of Mass for All Products

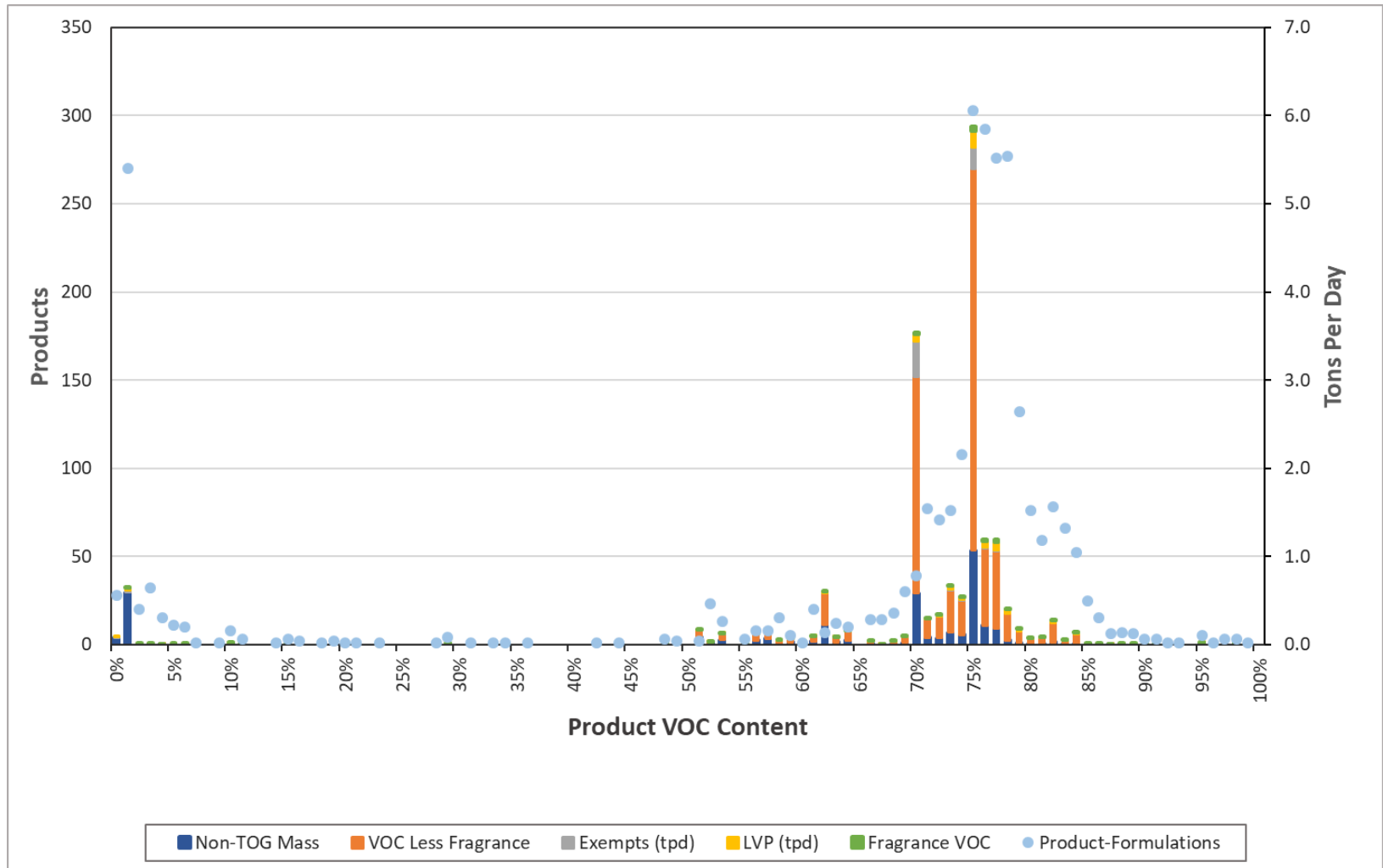


Percentage of VOC Emissions for All Products



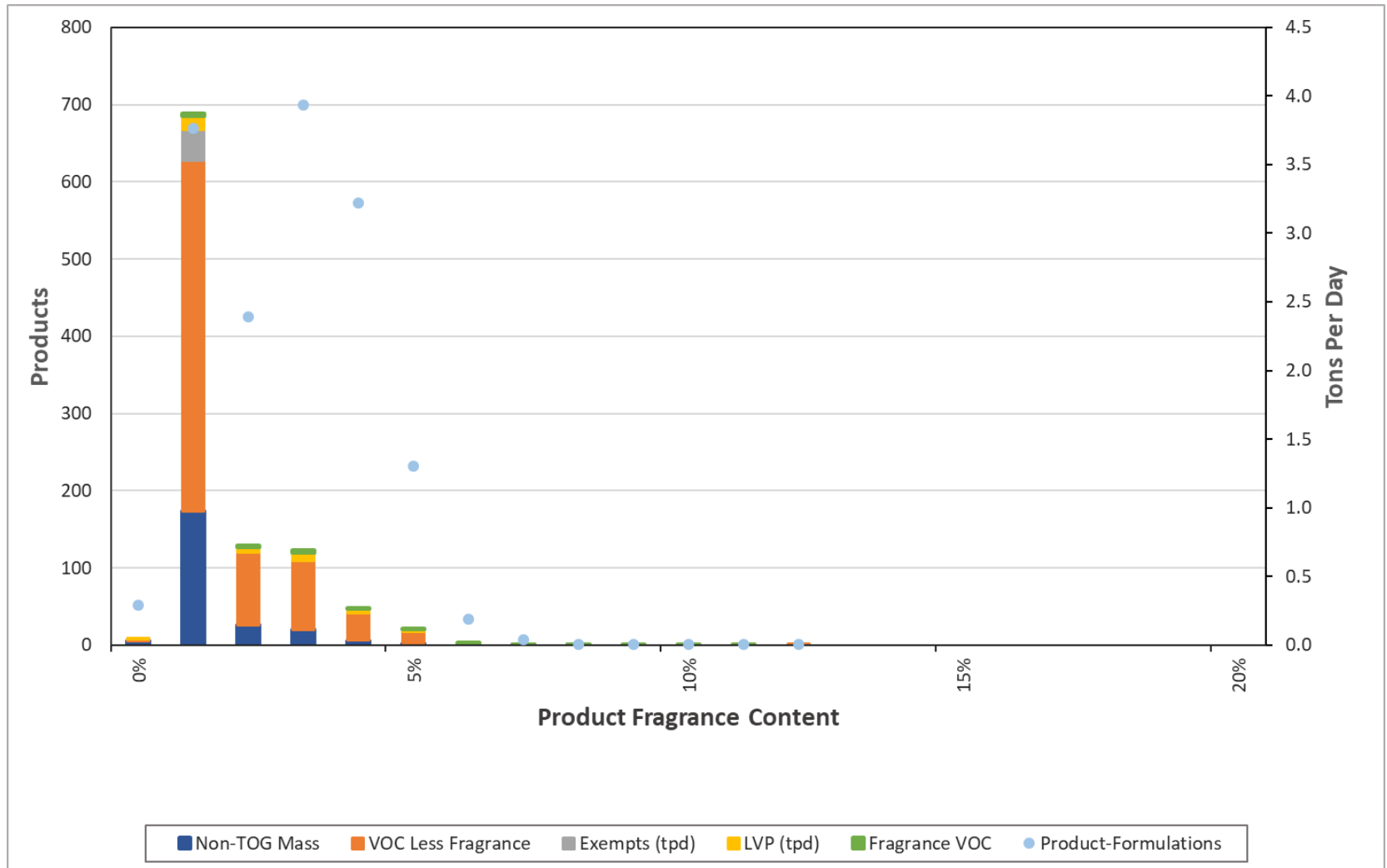
VOC Content:

Personal Fragrance Products with 20% or less fragrance

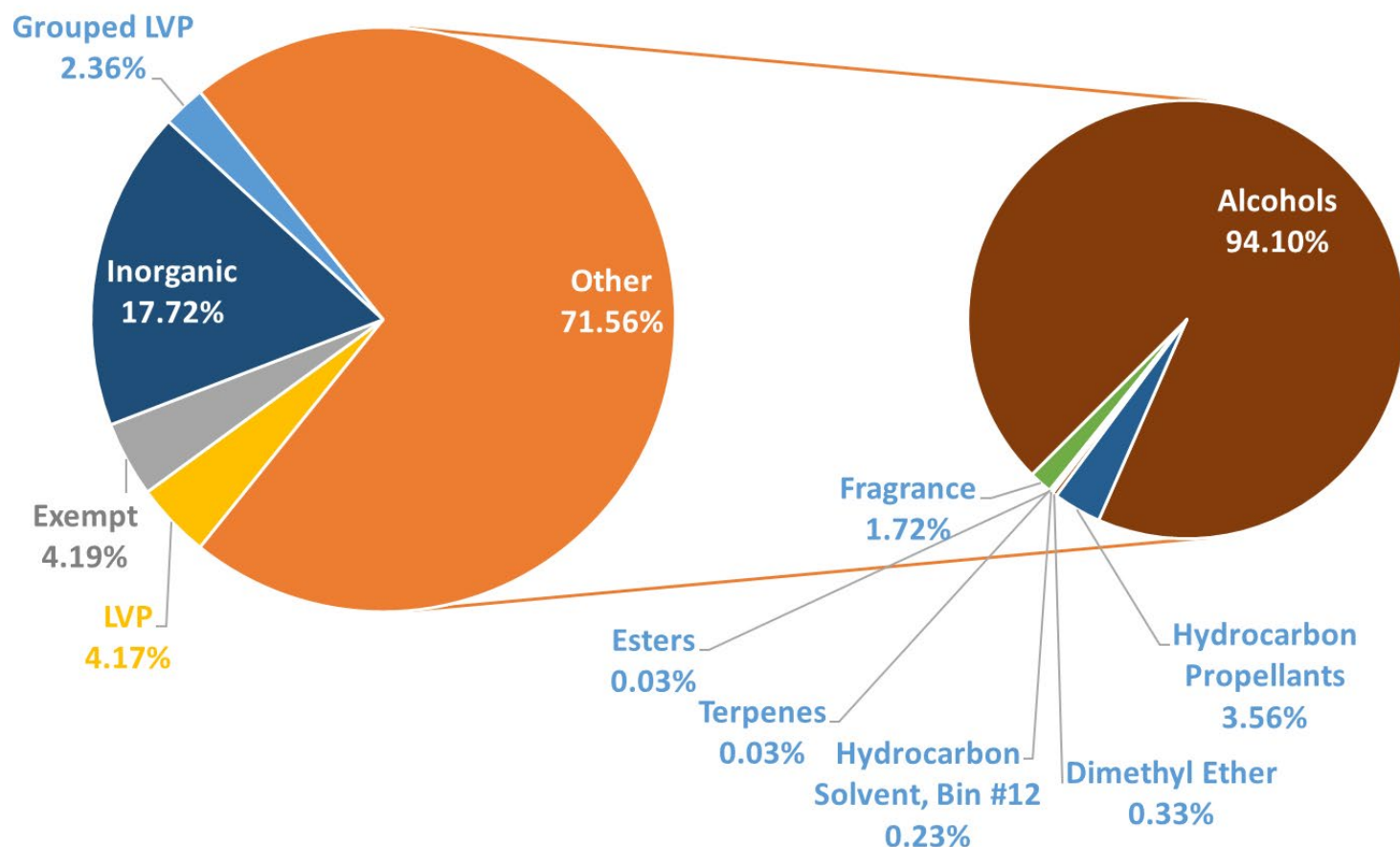


Fragrance Content:

Personal Fragrance Products with 20% or less Fragrance



Speciation and VOC Breakdown: Personal Fragrance Products with 20% or less Fragrance



Possible VOC Thresholds: Personal Fragrance Products

Personal Fragrance Products with 20% or less fragrance	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold	Possible Threshold
Percent VOC	70%	69%	68%	67%	66%	65%
VOC Tons Per Day Reduced	0.52	0.67	0.82	0.97	1.12	1.27
Complying Market Share (Product-Formulations)	18%	17%	15%	15%	15%	14%
Complying Market Share (Mass)	31%	10%	9%	9%	9%	9%
Number of Companies	81	80	80	78	78	78
Number of Products	1,012	834	781	754	740	727



Discussion & Questions

Antiperspirant

❖ “Antiperspirant” means any product including, but not limited to, aerosols, roll-ons, sticks, pumps, pads, creams, and squeeze-bottles, that is intended by the manufacturer to be used to reduce perspiration in the human axilla by at least 20 percent in at least 50 percent of a target population.

❖ 2001 Limits:

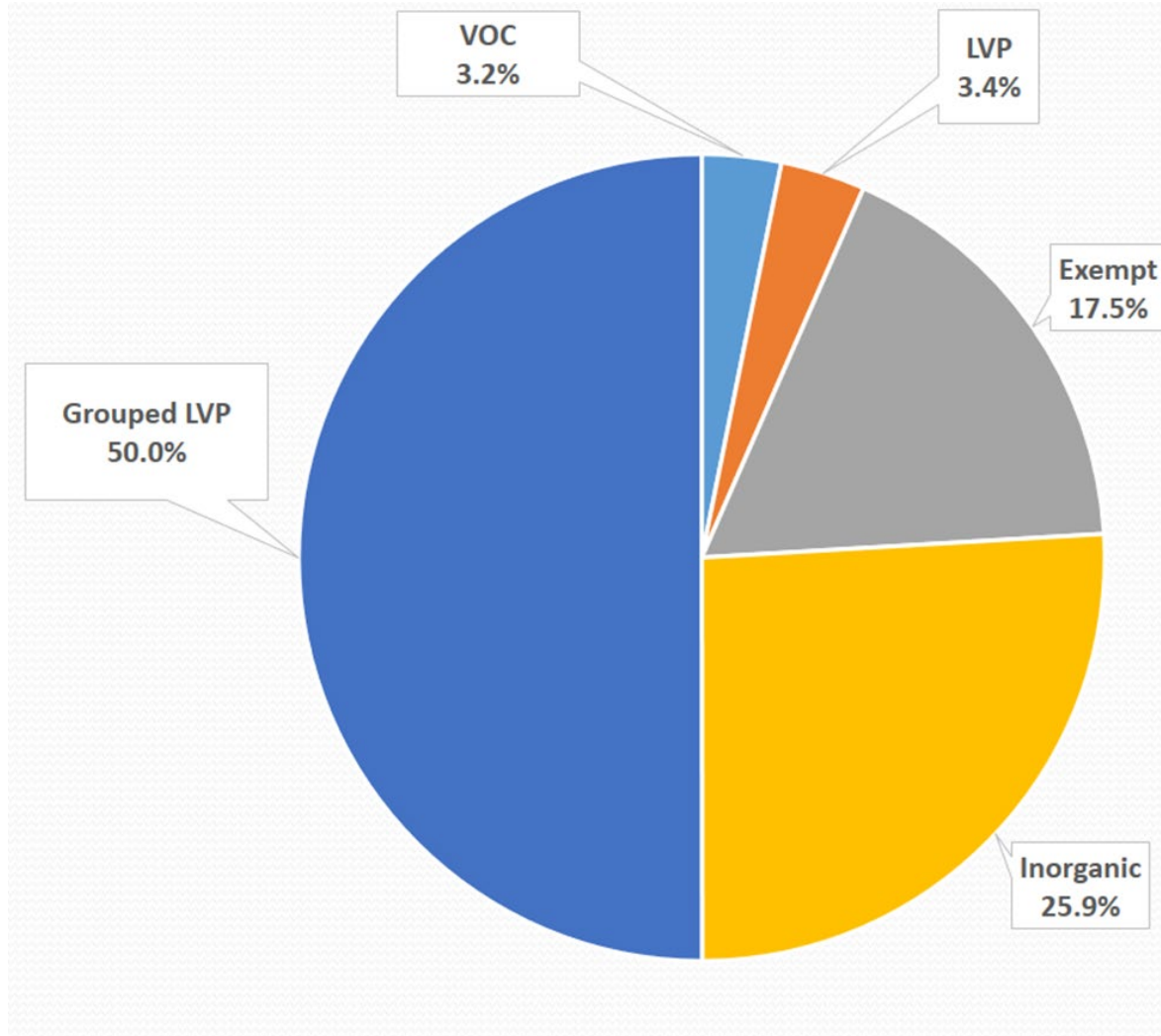
Aerosol	Nonaerosol
40% HVOC	0% HVOC
0% MVOC	0% MVOC

Category Overview:

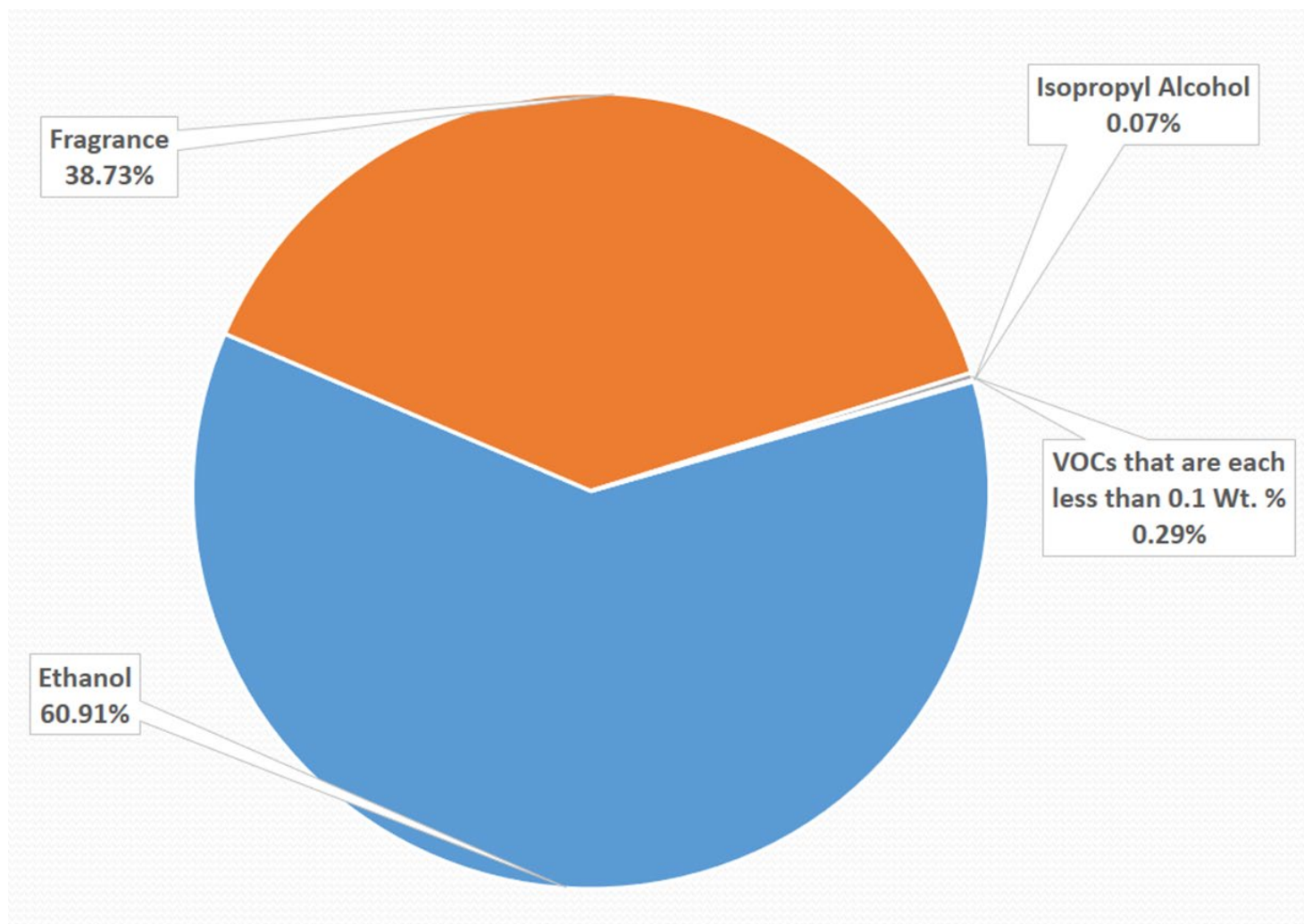
Antiperspirant

Number of Companies	37
Number of Products	915
VOC Emissions (tpd)	1.7
Category VOC Range	0%-85%
SWA-VOC Content	7.54%
PWMIR	0.19
TOG MIR	0.63

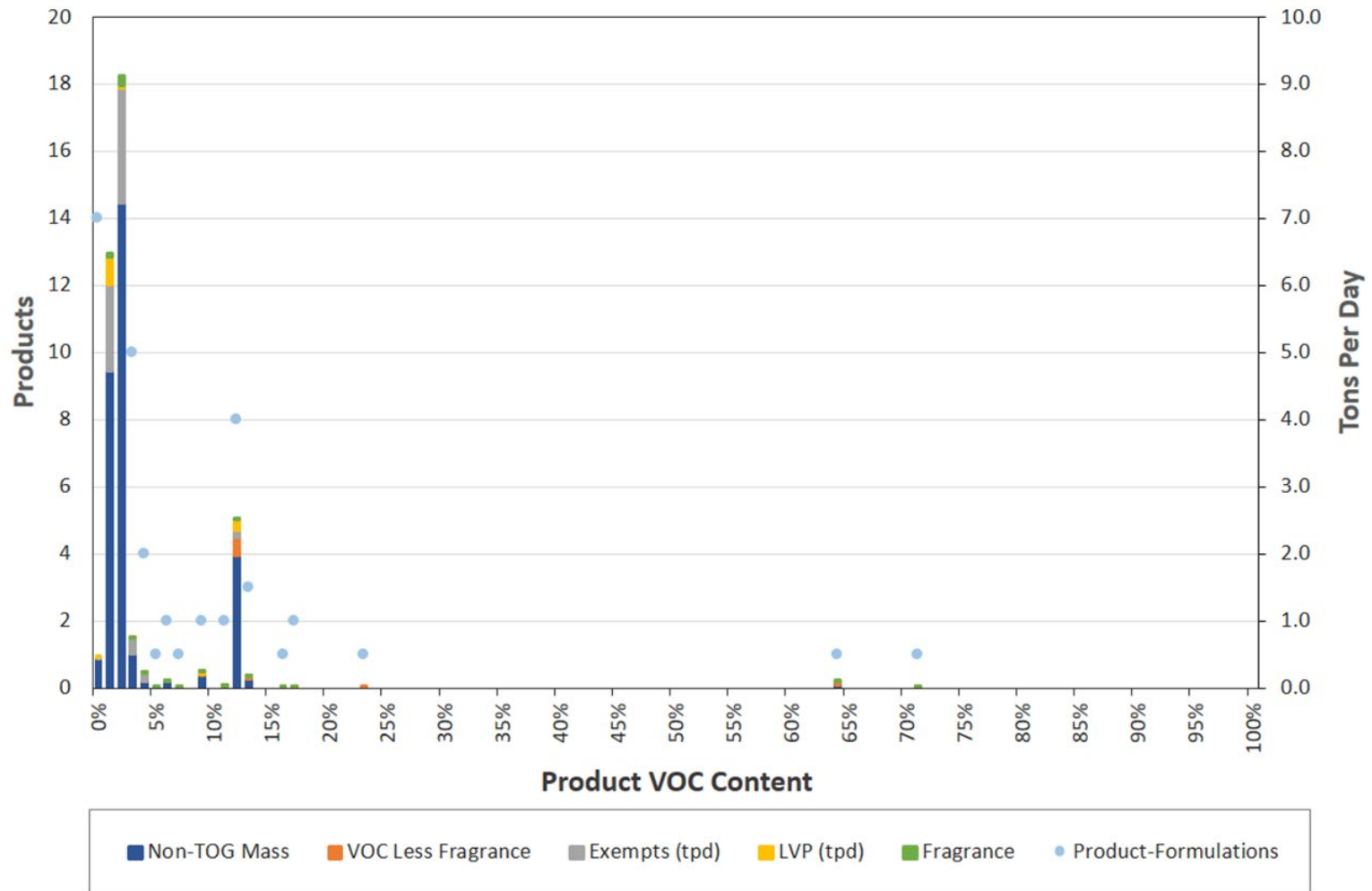
Nonaerosol Antiperspirant: Speciation Breakdown



Nonaerosol Antiperspirant: VOC Breakdown



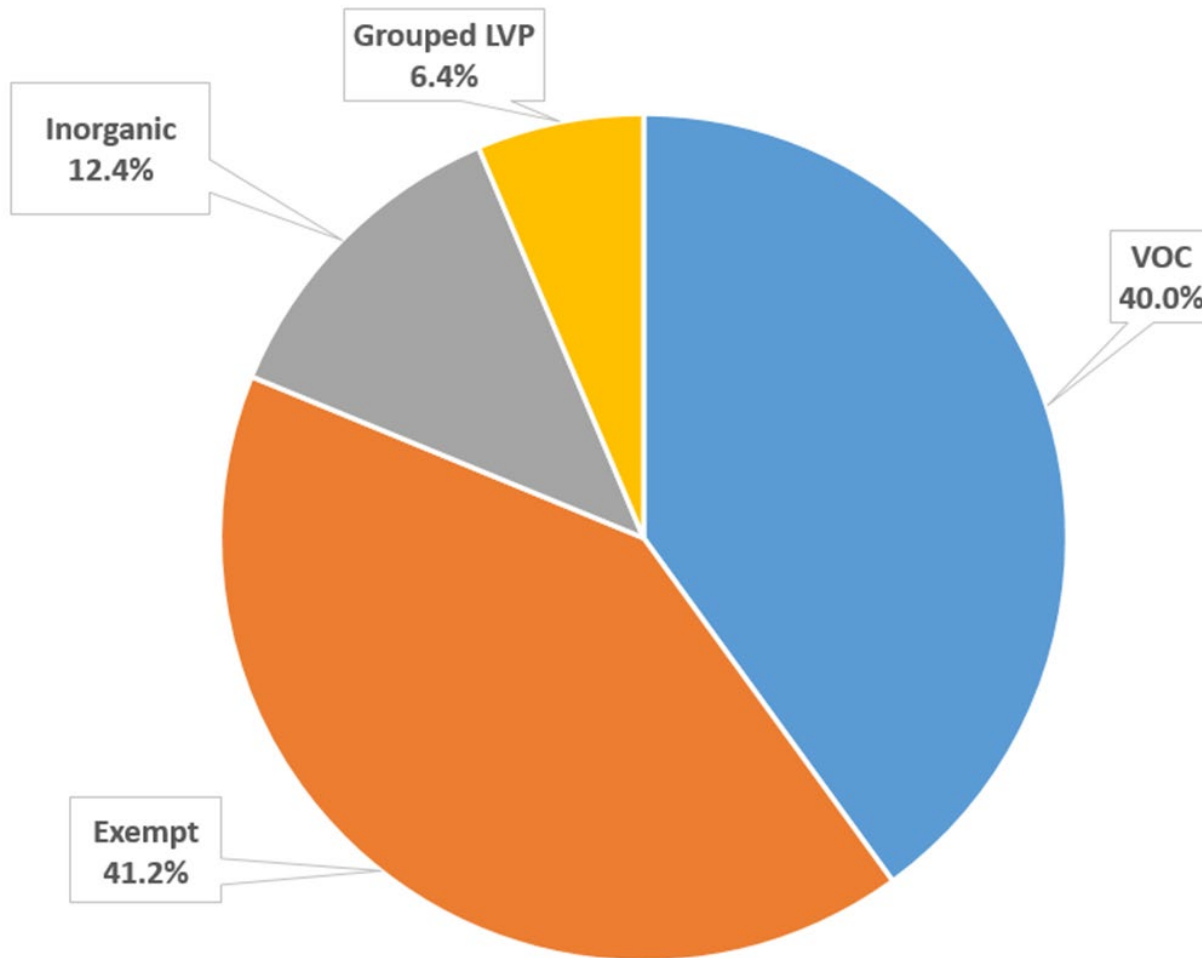
Nonaerosol Antiperspirant: VOC Content



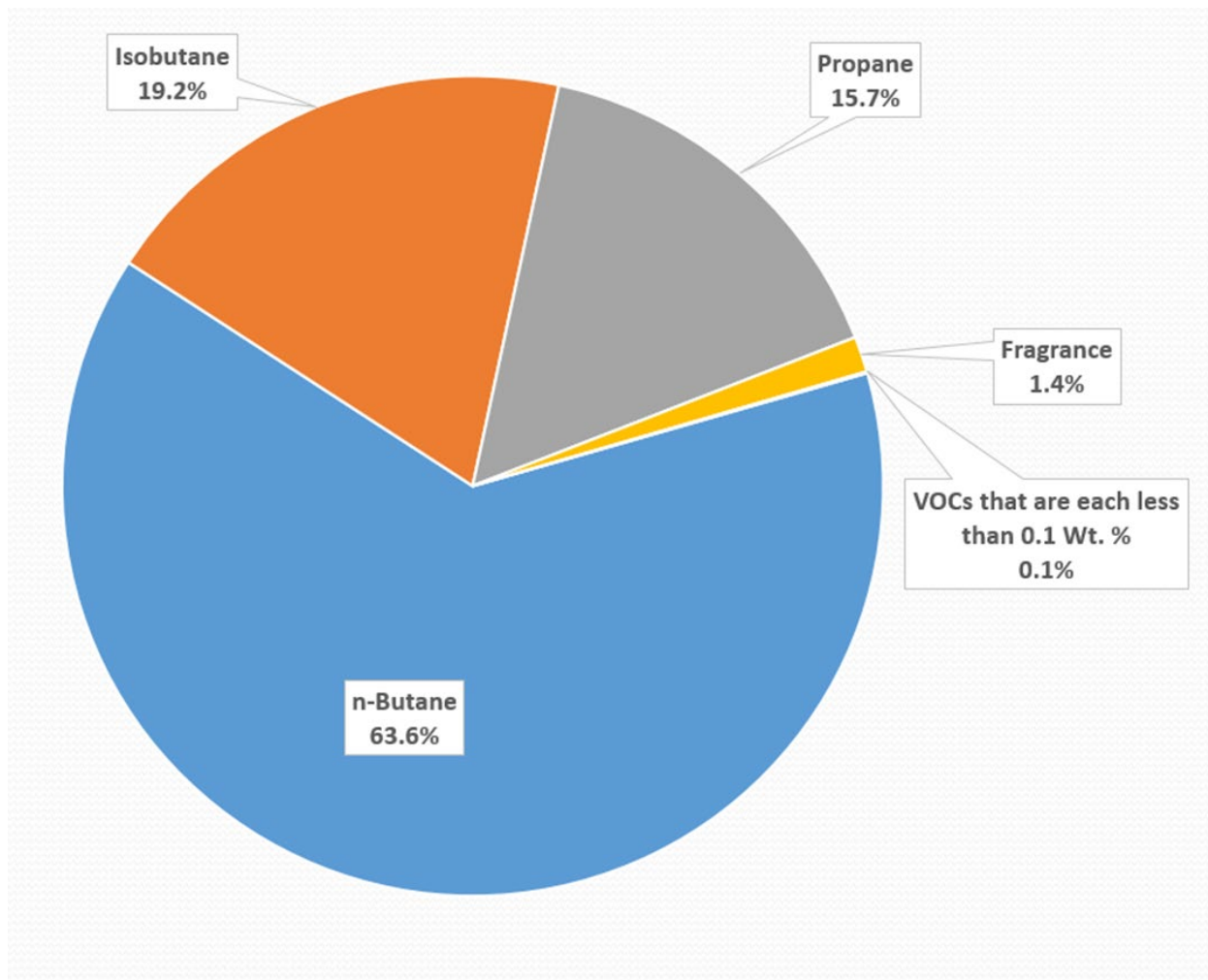
Nonaerosol Antiperspirant: Possible VOC Thresholds

Nonaerosol Antiperspirant	Possible Threshold	Possible Threshold	Possible Threshold
Percent VOC	20%	10%	5%
VOC Tons Per Day Reduced	0.04	0.11	0.25
Complying Market Share (Product-Formulations)	98%	88%	84%
Complying Market Share (Mass)	99.5%	86.0%	84.3%

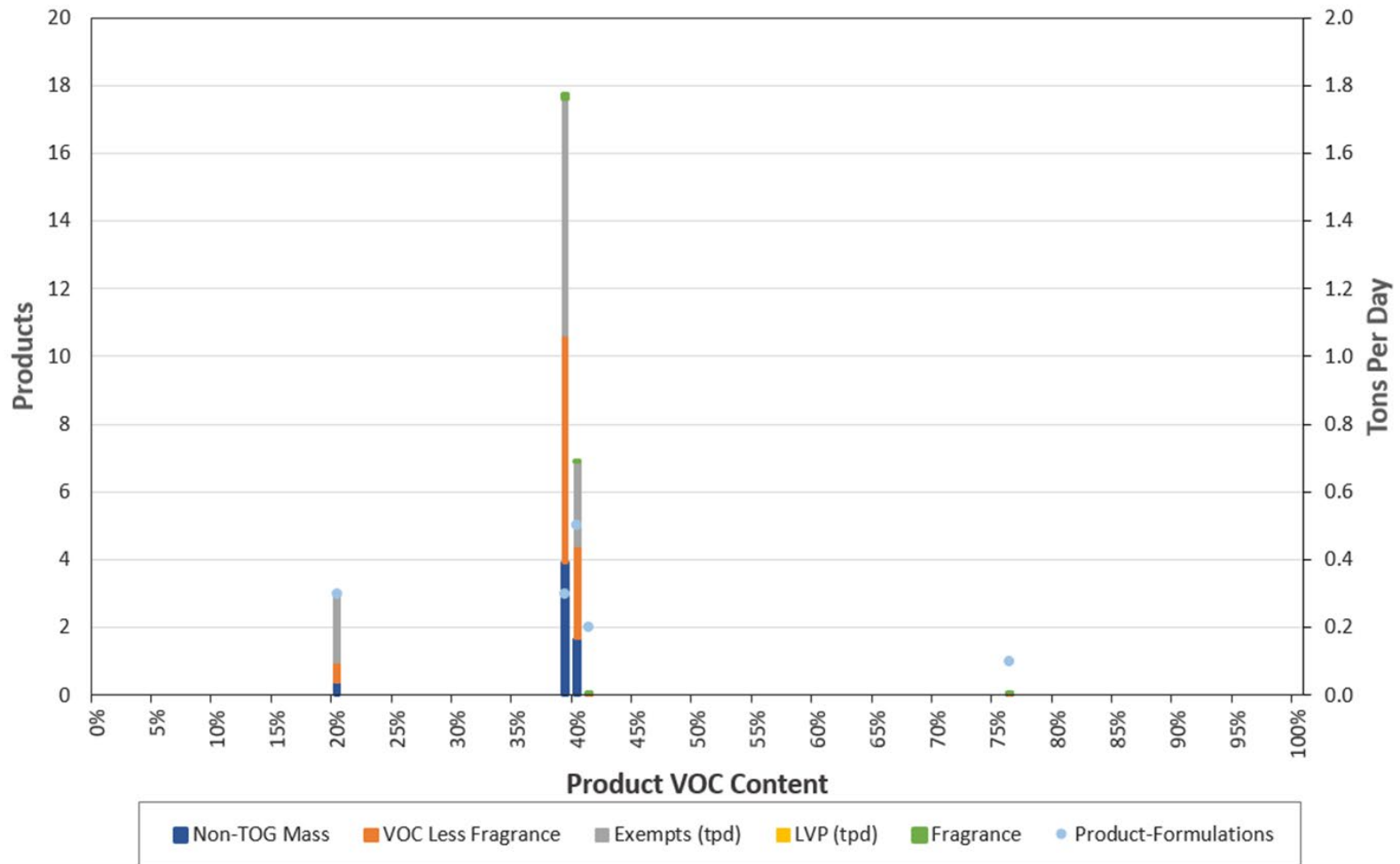
Aerosol Antiperspirant: Speciation Breakdown



Aerosol Antiperspirant: VOC Breakdown



Aerosol Antiperspirant: VOC Content



Aerosol Antiperspirant: Possible VOC Thresholds

Aerosol Antiperspirant	Possible Threshold	Possible Threshold	Possible Threshold
Percent VOC	35%	30%	25%
VOC Tons Per Day Reduced	0.11	0.23	0.35
Complying Market Share (Product-Formulations)	21%	21%	21%
Complying Market Share (Mass)	11%	11%	11%



Discussion & Questions

Deodorant

❖ “Deodorant” means any product including, but not limited to, aerosol, roll-ons, sticks, pumps, pads, creams, and squeeze-bottles, that indicates or depicts on the container or packaging, or on any sticker or label affixed thereto, that the product can be used on or applied to the human axilla to provide a scent and/or minimize odor.

❖ 2001 Limits:

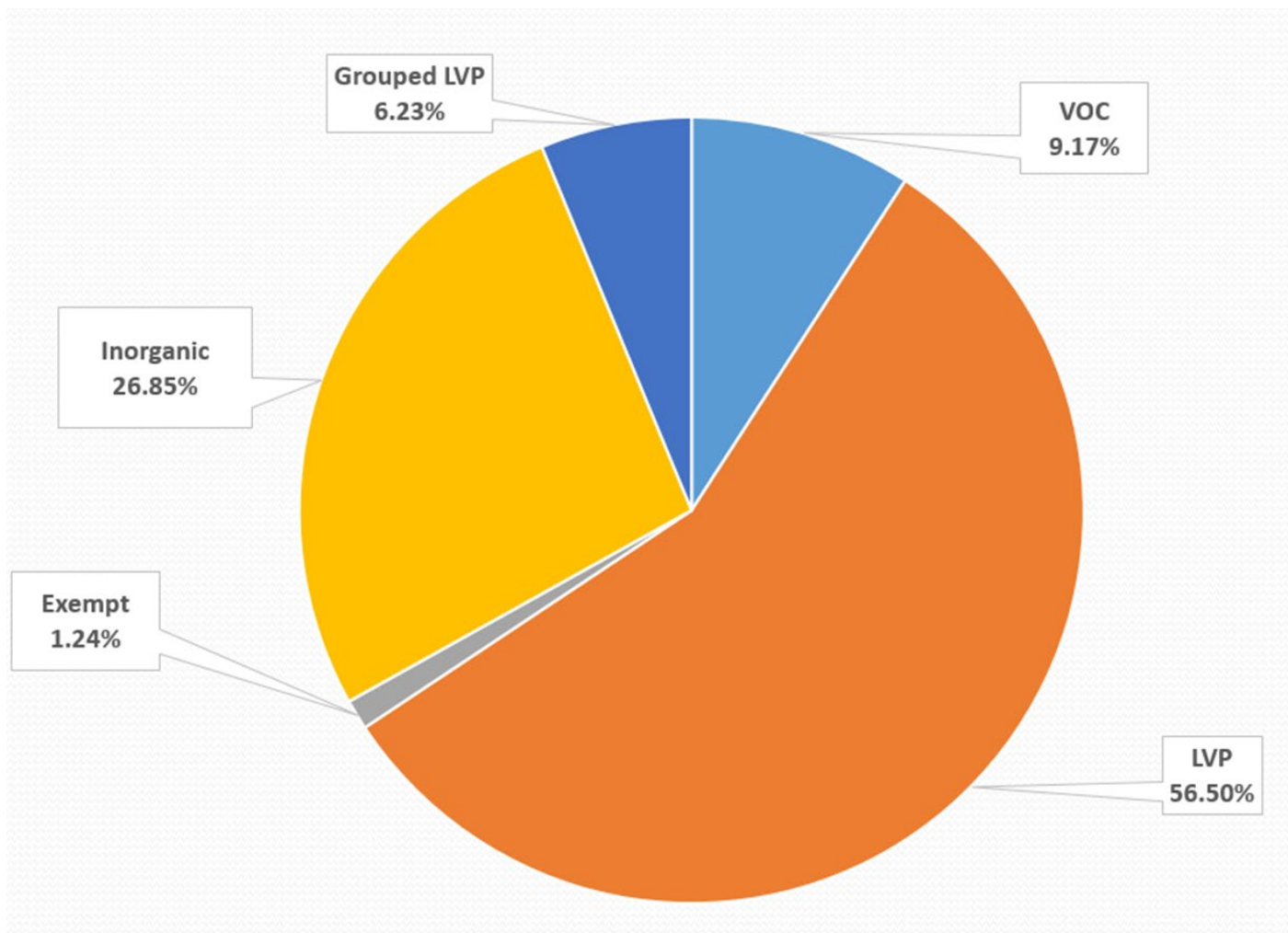
Aerosol	Nonaerosol
0% HVOC	0% HVOC
10% MVOC	0% MVOC

Category Overview:

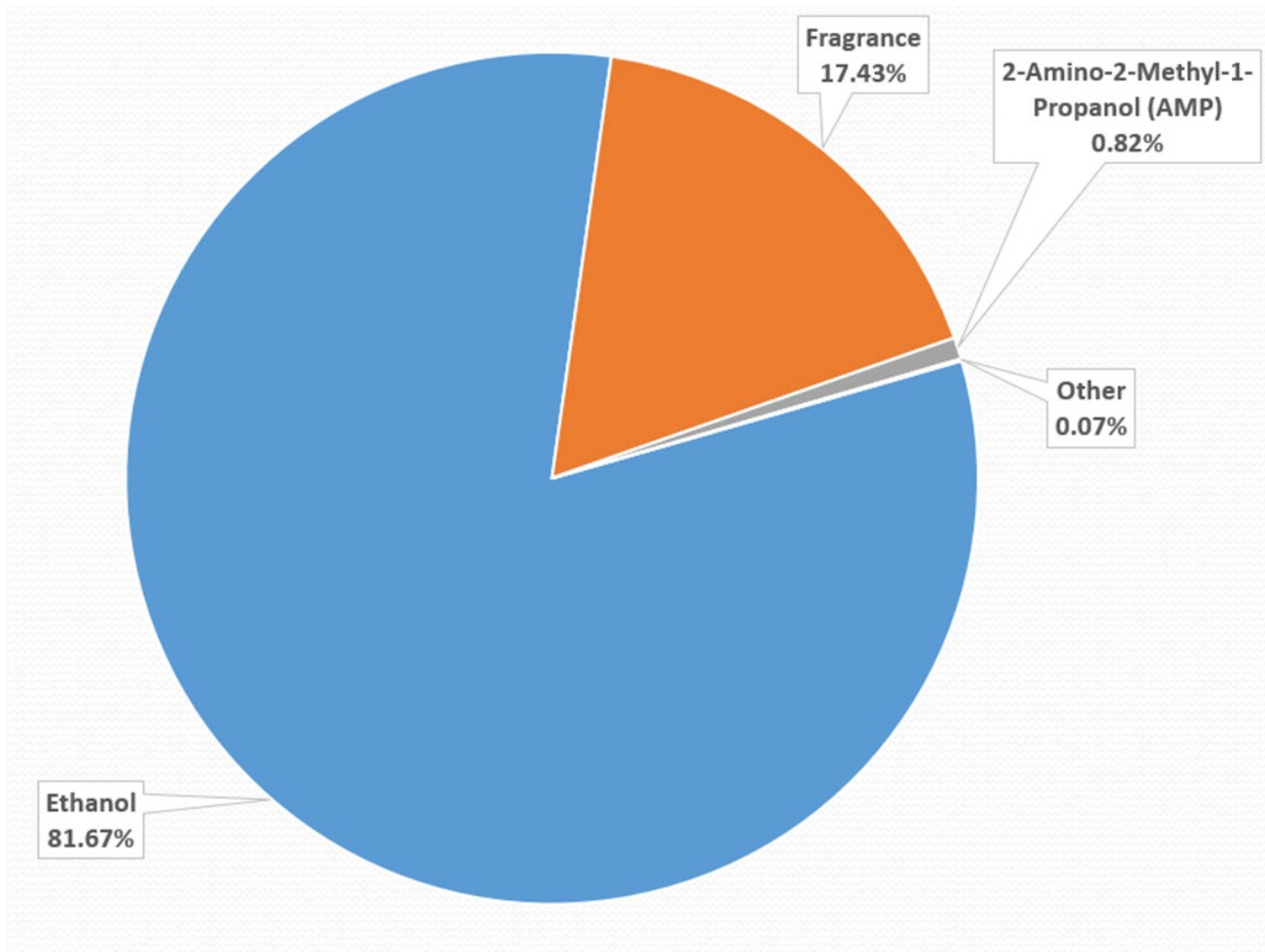
Deodorant

Reporting Companies	89
Reported Products	601
VOC Emissions (tpd)	0.88
SWA-VOC Content	14.8%
PWMIR	1.48
TOG MIR	2.22

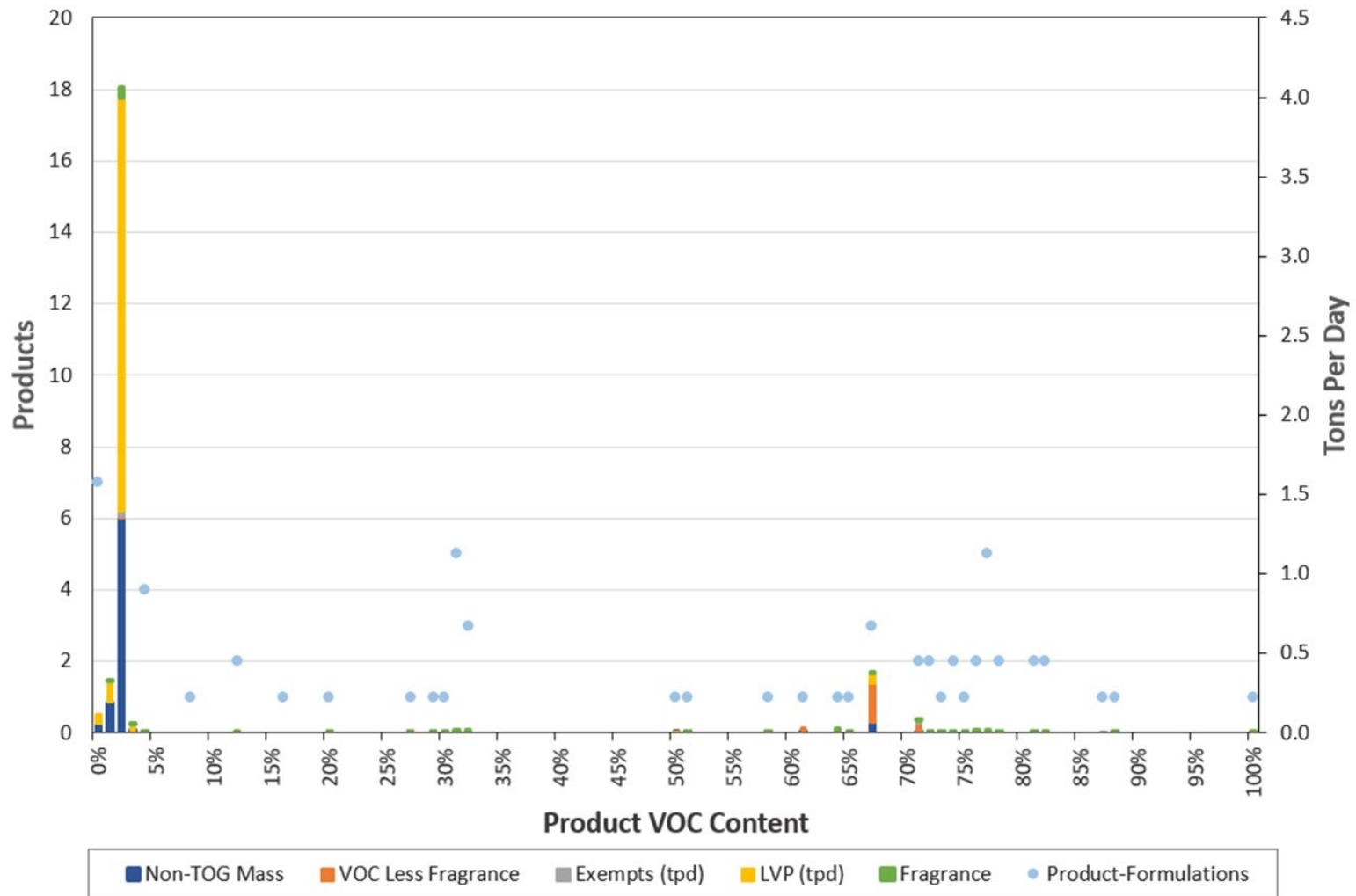
Nonaerosol Deodorant: Speciation Breakdown



Nonaerosol Deodorant: VOC Breakdown



Nonaerosol Deodorant: VOC Content



Nonaerosol Deodorant: Possible VOC Thresholds

Nonaerosol Deodorant	Possible Threshold	Possible Threshold	Possible Threshold
Percent VOC	20%	10%	5%
VOC Tons Per Day Reduced	0.27	0.33	0.35
Complying Market Share (Product-Formulations)	76%	74%	74%
Complying Market Share (Mass)	89%	89%	89%

Aerosol Deodorant: Possible VOC Thresholds

Aerosol Deodorant	Possible Threshold	Possible Threshold	Possible Threshold
Percent VOC	70%	67%	65%
VOC Tons Per Day Reduced	0.02	0.03	0.04



Discussion & Questions



Next Steps:

- ❖ Regulatory Strategies Work Group Webinar:
 - ❖ October 17th: 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
- ❖ Fall Workshop

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- ❖ **[Bulletin signup](#)**

- ❖ Enter your email and check “Consumer Products Program”