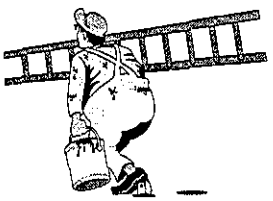
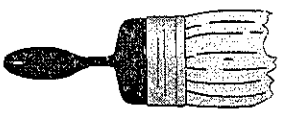
ARB 1999a I/II

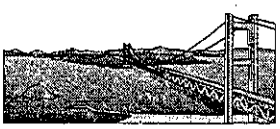
1998 Architectural Coatings Survey Results

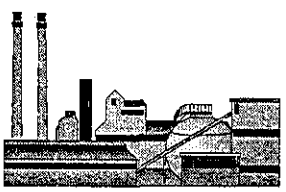
Final Report

September 1999









California Environmental Protection Agency

Air Resources Board

1998 Architectural Coatings Survey

Final Report

September 1999

California Environmental Protection Agency

Air Resources Board

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See Chapter 1 – Companies

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This report has been reviewed and approved by the Air Resources Board and approved for publication. Approval does not signify that the contents reflect the views and policies of the Air Resources Board, nor does mention of companies constitute endorsement. This report is a direct reflection of the data submitted by those companies who responded to the Air Resources Board Architectural Coatings Survey conducted in 1998 requesting 1996 California sales data.

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ACRONYMS USED

ARB	Air Resources Board
CARB	California Air Resources Board
Density	Density of Coating
Dual	Interior and Exterior Coating
Exterior	Exterior Coating
Interior	Interior Coating
g/l	grams per liter
PD	Protected Data – Less than three companies represent the data value
SB	Solvent-Borne
SCM	Suggested Control Measure
SWA	Sales Weighted Average
Solids	Nonvolatile matter in a coating composition (i.e., the ingredients of a coating composition which, after drying, are left behind and constitute the dry film)
TPD	Tons Per Day (emissions related)
TPY	Tons Per Year (emissions related)
VOC	Volatile Organic Compound

VOC_{Act} VOC_{Actual} - Also known as VOC of Material. A ratio of the weight of VOCs per a given volume of paint (e.g., gallon or liter) with water and exempt compounds subtracted from only the numerator (weight). VOC Actual is the value used to calculate emissions.

$$VOC_{Actual} = \frac{(Total\ Weight\ of\ Volatiles - Weight\ of\ Water - Weight\ of\ Exempt\ VOCs)}{Total\ Volume\ of\ Coating}$$

VOC_{Reg} $VOC_{Regulatory}$ - The VOC content limit or standard codified in architectural coating regulations. A ratio of the weight of VOCs per a given volume of paint (e.g., gallon or liter) with water and exempt VOCs subtracted from both the numerator (weight) and denominator (volume).

$$VOC_{Regulatory} = \frac{(Total\ Weight\ of\ Volatiles - Weight\ of\ Water - Weight\ of\ Exempt\ VOCs)}{(Total\ Volume\ of\ Coating - Volume\ of\ Water - Volume\ of\ Exempt\ VOCs)}$$

WB Water-Borne

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Introduction and Background

This report presents results from the "1998 Architectural and Industrial Maintenance Coatings Survey" conducted by the California Air Resources Board (CARB or ARB) for coatings sold in California during 1996. This is the sixth survey of this type conducted by the ARB for the purpose of estimating emissions from "Architectural and Industrial Maintenance Coatings" or "Architectural Coatings." Architectural coatings do not include aerosol coating products. For purposes of this survey, architectural coatings were defined as follows:

> "Architectural Coatings are coatings applied to stationary structures and their appurtenances, to mobile homes, to pavements, or to curbs. Appurtenances are any accessory to a stationary structure, whether installed or detached at the proximate site of installation, including but not limited to: bathroom and kitchen fixtures; cabinets; concrete forms; doors; elevators; fences; hand railings; heating equipment, air conditioning equipment, and other fixed mechanical equipment or stationary tools; lamp posts; partitions; pipes and piping systems; rain gutters and downspouts; stairways, fixed ladders, catwalks, and fire escapes; and window screens."

The ARB's historical pattern for conducting surveys of architectural coatings is every four or five years. Previous surveys were conducted in 1976, 1981, 1985, 1989, and 1993. The information collected in the surveys is used to help the ARB and local air pollution control or air quality management districts (APCDs or AQMDs) track the volatile organic compound (VOC) emissions from architectural coatings. The surveys are also used in the development of regulations or rules to reduce the VOC emissions from architectural coatings. The efforts to regulate coatings began in the 1970s with the task force known as the Organic Solvent Regulation Study Group or "ORGSOL". This group consisted of the ARB, South Coast AQMD, Bay Area AQMD, and San Diego APCD.

The local districts have the primary responsibility for control of air pollution from stationary sources, such as the application of coatings. The local districts develop, adopt, and enforce rules and regulations under their jurisdiction to achieve and maintain the state and federal ambient air quality standards. The local districts have regulated architectural coatings in California since the 1970s.

The ARB's role over the years has been to provide technical assistance to the districts in the form of industry surveys and research. To track the emission contributions of architectural coatings, an inventory was created, which is based on the surveys. Regulatory and policy guidance has been provided by the development of a suggested control measure (SCM), which was first developed in 1977, and which has been amended in 1985 and 1989. Efforts are currently underway to again amend the ARB's architectural coatings SCM.

The 1998 Architectural Coatings Survey

In February 1998, the ARB mailed survey questionnaires to over 700 companies that potentially sold architectural coating products in California in 1996. The ARB received 340 responses, 152 of which submitted California sales data. This compares favorably to the previous three ARB surveys (conducted in 1993, 1989, and 1985), which had an average of 149 companies responding with data. Information about the companies reporting is presented in Chapter 1.

The 1998 Architectural Coatings survey requested 1996 California sales information for 58 coating categories. The rationale for collecting 1996 sales information was tied to the time when the survey was released. During the survey development in late 1997, some coating manufacturers expressed reservations in their ability to report 1997 California sales data if the survey was to be released in early 1998. In response, the ARB requested 1996 California sales data. For each of the coating categories, the survey collected sales in gallons (broken down by sales in container sizes of 1 quart and larger than 1 quart), type of application (interior/exterior/dual), and coating composition (carrier technology, percent by volume solids, density, VOC content, recommended thinning, diluent, and ingredients). A copy of the survey questionnaire is available in Appendix A.

Some manufacturers considered the data provided in the 1998 Architectural Coatings Survey to be trade secret and confidential. To address this concern, but still allow the publishing of survey results, the ARB implemented the historical practice of concealing all data values that did not represent at least three companies, otherwise known as the "Three Company Rule." Every effort was made to reveal as much of the survey data as possible without compromising the "Three Company Rule." Unfortunately instances did arise which required certain portions of the survey results to be concealed. Throughout this report the term "Protected Data" is encountered. The purpose of this term is to reflect that compliance with the "Three Company Rule" could not be satisfied and the data was concealed from view.

The 1998 survey responses represent about 87.5 million gallons of the architectural coatings sold in California in 1996, with emissions of approximately 36,300 tons of VOC per year or about 100 tons per day. The contribution that the largest coating categories made to total sales volume and emissions are represented in the table below. The top ten coating categories account for 88 percent of the total coating sales in California, or 77 million gallons. The top ten emission categories account for 76 percent of the total emissions, or 27,600 tons per year. More detailed information on sales and emissions data are presented in Chapters 2 and 3, respectively.

Top 10 Coating Categories
Sales Volume & Emissions

	Category	Sales[1]	Category	Emissions[2]
1	Flat	36%	Flat	15%
2	Nonflat – medium gloss	18%	Industrial Maintenance	14%
3	Primer, Sealer, Undercoater	7%	Nonflat – medium gloss	12%
4	Bituminous	6%	Primer, Sealer, Undercoater	8%
5	Nonflat – low gloss	5%	Quick Dry – Primer, Sealer, Undercoater	6%
6	Industrial Maintenance	5%	Stain – semitransparent	5%
7	Roof	3%	Quick Dry – enamel	4%
8	Traffic	3%	Nonflat – high gloss	4%
9	Nonflat – high gloss	2%	Traffic	4%
10	Quick Dry – Primer, Sealer, Undercoater	2%	Lacquer – clear	3%
	Total	88%	Total	76%

1 Total Sales Volume = 87.5 million gallons
2 Total Emissions = 36,300 tons per year

VOC content information was also collected for all 58 coating categories. Values for VOC content summarized in this report were determined by calculating the sales weighted average and are available in Chapter 4. VOC content values appear as VOC_{Actual} and $VOC_{Regulatory}$. VOC_{Actual}, also know as VOC of Material, is a ratio of the weight of VOCs (minus the weight of water and exempt VOCs) per a given volume of paint. VOC_{Actual} is the value used to determine emissions. The VOC content limit or standard codified in architectural coating regulations is commonly known as $VOC_{Regulatory}$. $VOC_{Regulatory}$ is a ratio of the weight of VOCs per a given volume of paint with water and exempt VOCs subtracted from both the numerator (weight) and denominator (volume). The original rationale behind the $VOC_{Regulatory}$ value was to reflect the relationship of coverage to total solids content and to provide an equivalent basis for comparing the polluting portion of solvent-borne and water-borne coatings. Also, based on industry comments, it was believed that the $VOC_{Regulatory}$ approach would prohibit coating manufacturers from simply diluting a coating with water in order to meet standards specified in coating regulations.

Organizing the large amount of sales volume and VOC content ($VOC_{Regulatory}$) data for 58 categories and depicting the information in a meaningful way was a challenge. To address this challenge, two approaches were taken and are presented in Chapters 5 and 6. Chapter 5 uses two types of graphs (Histograms and Cumulative Percent Graphs) to present sales volume and $VOC_{Regulatory}$ data by category. The histrogram graphs are merely distributions of $VOC_{Regulatory}$ in increments of 50 grams per liter with accompanying sales volume. In addition, the histograms provide general category information such as total sales, emissions, and overall sales weighted average for $VOC_{Regulatory}$. The cumulative percent graphs provide a descriptive view of each category by displaying 100 gram per liter increments of $VOC_{Regulatory}$ and the percent of

market volume complying. An added benefit of the cumulative percent graphs is that they display data that would otherwise be considered "Protected Data." Chapter 6 includes Table 6-1 which represents a comprehensive summary of the product data collected from the 1998 Architectural Coatings Survey (see Form II, Appendix A). Table 6-1 allows one to view coating category information on a side by side basis.

A new element to ARB's 1998 Architectural Coatings Survey was the collection of ingredient data in the survey questionnaire. The survey data compiled represents over 3000 distinct ingredients. Given the magnitude of displaying the ingredient data in a meaningful way, like compounds were aggregated under common names and divided into three main ingredient or speciation profiles (Overall, Solvent-borne, Water-borne). Chapter 7 contains more information regarding the ingredient data.

This report concludes with Chapter 8, which compares, where possible, the results from the ARB's 1993 Architectural Coatings Survey (1990 sales data) with the results of this survey. The table below presents a comparison of some overall data collected in the 1993 and 1998 architectural coating surveys.

Comparison of ARB's 1998 and 1993
Overall Architectural Coatings Survey Data

	1993 Survey (1990 Sales)		1998 Survey (1996 Sales)		Percent Change	
Total volume reported (gallons)	77.1 million		87.5 million[3]		+13.5%	
Water-borne/solvent-borne split by volume	76%	24%	82%	18%	+22.4	-14.9
Total estimated annual average emissions[1]	126 TPD[2]		117 TPD		-7.2%	
Water-borne/solvent-borne split by emissions[1]	28%	72%	33%	67%	+9.4	-13.6
Volume per capita (gallons per capita)	2.6		2.7		+3.9%	
Emissions per capita[1] (pounds per capita)	3.1		2.6		-16.1%	

1 *These emission estimates include emissions from thinning and clean-up.*
2 *This is a 1990 value. For comparison purposes, ARB's emissions inventory estimates emissions of 128 TPD in 1996.*
3 *The top 10 survey respondents account for 75% or 65.6 million gallons. The remaining survey respondents (142) account for 25% or 21.9 million gallons.*

Chapter 1 – COMPANIES

The 1998 survey was sent to over 700 companies that potentially sold architectural coatings in California in 1996. We received responses from 340 companies, 152 of which submitted survey data. This compares favorably to the previous three ARB surveys (conducted in 1993, 1989, and 1985), which had an average of 149 companies responding with data.

This section includes the following table and figures:

- Table 1-1 lists the 152 survey respondents or companies alphabetically
- Figure 1-1 shows the top 10 manufacturers and market share
- Figure 1-2 shows the survey respondents' marketing classification (International, National, California statewide, or California regional)
- Figure 1-3 shows the survey respondents' gross earnings
- Figure 1-4 shows the number of employees for the survey respondents

Table 1-1
Survey Respondents

Count	Company Name (Alpha Order)		
1	3M	64	HARRIS SPECIALTY CHEMICALS, INC
2	A. W. CHESTERTON COMPANY	65	HEMPEL COATINGS (USA), INC.
3	AC PRODUCTS, INC	66	HENRY COMPANY
4	ACE HARDWARE	67	HERESITE PROTECTIVE COATINGS, INC
5	ACRYMAX TECHNOLOGIES, INC.	68	HILL BROTHERS CHEMICAL COMPANY
6	AKZO NOBEL	69	ICI PAINTS, N.A.
7	ALCO NVC, INC	70	INDURON COATINGS, INC.
8	AMERON INTERNATIONAL PROTECT CTGS GROUP	71	INGELS, INC.
9	AMTECO INC	72	INSL-X PRODUCTS CORPORATION
10	ARMSTRONG-CLARK CO., THE	73	INTERNATIONAL PAINT INC.
11	BEHR PROCESS CORPORATION	74	ITW PHILADELPHIA RESINS
12	BENJAMIN MOORE & CO.	75	JAMES B DAY & COMPANY
13	BONAKEMI USA, INC	76	JONES BLAIR CO
14	CAL WESTERN PAINTS, INC	78	KELLEY TECHNICAL COATINGS
15	CARBOLINE CO.	79	KELLY-MOORE PAINT COMPANY, INC.
16	CARDINAL INDUSTRIAL FINISHES	80	KLINGER PAINT CO
17	CHEMREX INC	81	KOOL SEAL, INC.
18	CHILDERS PRODUCTS COMPANY, INC	82	LENMAR, INC.
19	CHUGOKU MARINE PAINT(USA MFG. DIV.)	83	LIFE PAINT COMPANY
20	CLOVERDALE PAINT CORPORATION	84	LILLY INDUSTRIES, INC.
21	CONCO PAINT COMPANY	85	LORD CORPORATION
22	CORONADO LABORATORIES, INC	86	MAMECO INTERNATIONAL INC.
23	CORONADO PAINT COMPANY	87	MASON PAINT
24	DALY'S INC.	88	MASTER BUILDERS, INC.
25	DAMPNEY COMPANY, INC.	89	MASTERCHEM INDUSTRIES INC.
26	DAP, INC.	90	MORTON INTERNATIONAL, INC.
27	DAVLIN COATINGS, INC	91	MULICOLOR SPECIALTIES, INC.
28	DEFT, INC.	92	MULTI-CLEAN
29	DEL PAINT MFG CORP	93	NORTON & SON OF CALIFORNIA
30	DEVOE COATINGS	94	OKON, INC.
31	DEXTER CORPORATION	95	PACIFIC POLYMERS, INC.
32	DOLPHIN COMPANY, THE	96	PERVO PAINT COMPANY
33	DOW CORNING CORPORATION	97	PLASITE PROTECTIVE COATINGS, INC.
34	DUCKBACK PRODUCTS, INC.	98	POLY-LUX, INC.
35	DUDICK, INC.	99	PPG ARCHITECTURAL FINISHES, INCORPORATED
36	DUNN-EDWARDS CORPORATION	100	PRESERVA-PRODUCTS INC
37	E.I. DUPONT DE NEMOURS & CO., INC.	101	PRESERVO PAINT AND COATINGS MFG. CO.
38	EGYPTION LACQUER MFG. CO., INC.	102	PRIDE PAINT CO
39	ELLIS PAINT COMPANY	103	PRODUCTS/ TECHNIQUES, INC.
40	ENNIS PAINT	104	R.J. MCGLENNON CO, INC.
41	ENVIRONMENTAL COATING SYS. INC.	105	REILLY INDUSTRIES
42	EPMAR CORPORATION	106	REPUBLIC POWDERED METALS, INC.
43	EUCLID CHEMICAL COMPANY, THE	107	ROCKWOOD INDUSTRIES, DBA DAVIS COLORS
44	EVR-GARD COATINGS CO.	108	RODDA PAINT COMPANY
45	FARWEST PAINT MANUFACTURING COMPANY	109	ROSCO LABORATORIES, INC.
46	FEL-PRO CHEMICAL PRODUCTS	110	RUST-OLEUM CORPORATION
47	FIELDS CORPORATION	111	SAN LUIS PAINTS
48	FINE LINE PAINT COMPANY	112	SEM PRODUCTS INC
49	FINE PAINTS OF EUROPE	113	SENTRY PAINT TECHNOLOGIES INC
50	FLECTO COMPANY, INC.	114	SENTRY POLYMERS, INC.
51	FLO-KEM, INC.	115	SHERWIN-WILLIAMS CO.
52	FLOOD COMPANY	116	SIGMA COATINGS USA B.V.
53	FLYNT PAINT PRODUCTS	117	SIKA CORPORATION
54	FORREST PAINT CO.	118	SIMPSON COATINS GROUP INC.
55	FOSROC INC.	119	SMILAND PAINT COMPANY
56	FRAZEE INDUSTRIES	120	SOUTHWESTERN PETROLEUM CORPORATION
57	FUTURA COATINGS, INC	121	SPECIALTY COATINGS & CHEMICALS INC
58	GACO WESTERN, INC.	122	SPECTRA-TONE PAINT CORP
59	GARLAND COMPANY, INC.	123	SPRAYLAT CORP
60	GEMINI COATINGS, INC.	124	STAR BRONZE CO.INC.
61	GIBSON HOMANS	125	STONHARD INC
62	GOLDEN ARTIST COLORS	126	SUNNYSIDE CORPORATION
63	HARCO CHEMICAL COATINGS, INC.	127	SURFACE PROTECTION INDUSTRIES, INC.

Table 1-1 Continued
Survey Respondents

Count	Company Name (Alpha Order)		
128	SYMPLASTICS INC	141	VALSPAR CORPORATION
129	TECHSTAR INDUSTRIES, INC	142	VISTA PAINT CORPORATION
130	TENNANT COMPANY	143	W.R. GRACE & CO. CONN., GRACE CONST. PRD
131	TEXAS REFINERY CORP.	144	W.R.MEADOWS OF SOUTHERN CALIFORNIA
132	TEXTURED COATINGS OF AMERICA	145	WATERLOX COATINGS CORPORATION
133	TNEMEC CO., INC.	146	WESTERN COLLOID PRODUCTS
134	TREMCO INCORPORATED	147	WILLIAM ZINSSER & CO., INC.
135	TRESCO PAINT MFG. CO.	148	WOOD KOTE PRODUCT
136	TRINITY COATINGS COMPANY	149	XIM PRODUCTS INC
137	TRU SERV MANUFACTURING CO.	150	YENKIN-MAJESTIC PAINT CORPORATION
138	U.S. CELLULOSE CO., INC.	151	ZEHRUNG BRANDS DIVISION
139	UNITED COATINGS	152	ZYNOLYTE PRODUCTS CO INC
140	UNITED GILSONITE LABORATORIES		

Figure 1-1
Top 10 Manufacturers and Market Share out of 152 Respondents
(Total Sales Volume = 87.5 million gallons)

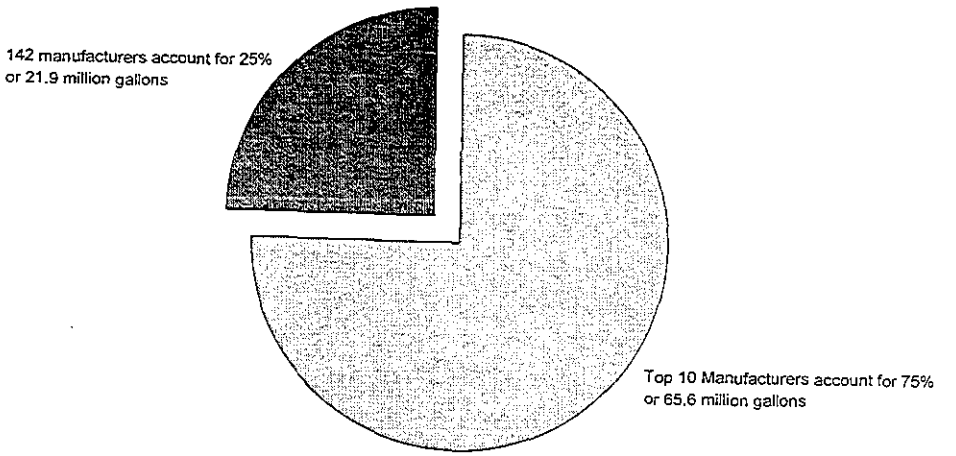


Figure 1-2
Survey Respondents Marketing Classification

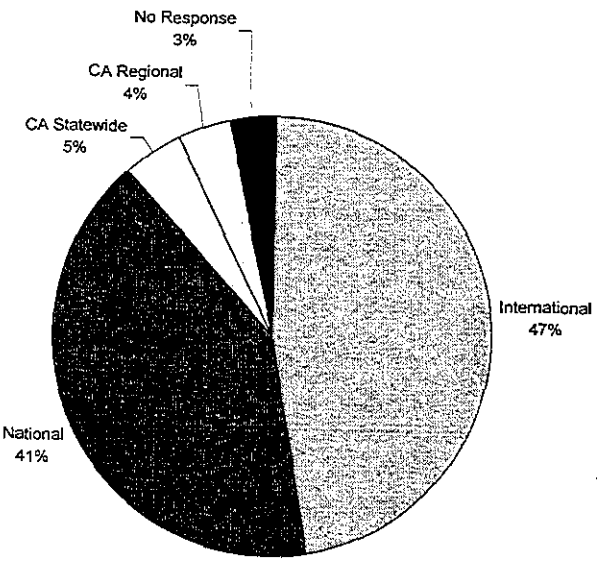


Figure 1-3
Survey Respondents Gross Earnings

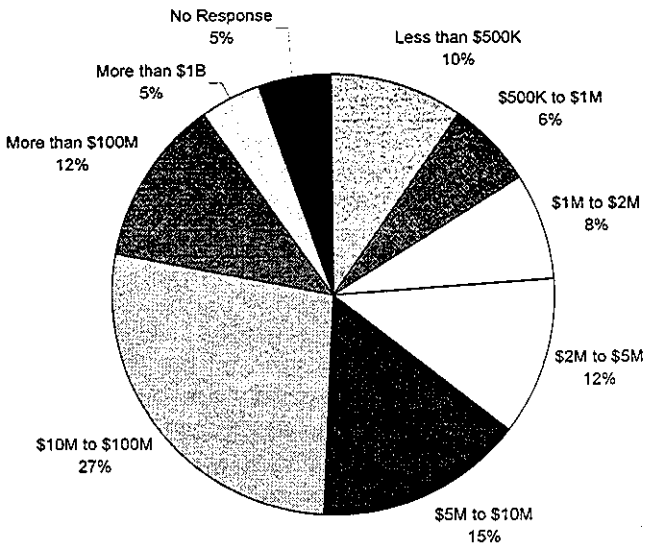
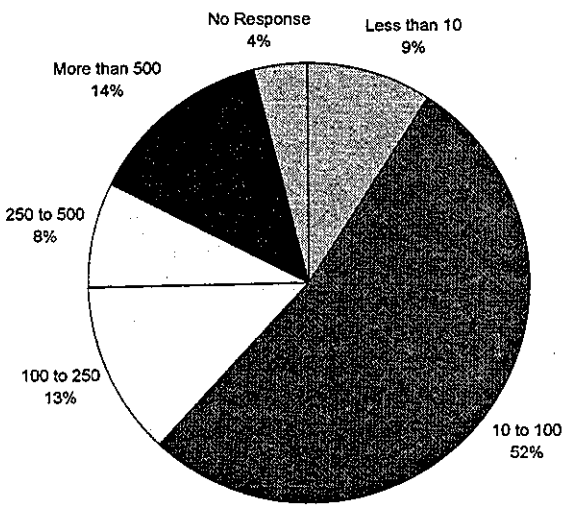


Figure 1-4
Survey Respondents Number of Employees



Chapter 2 – SALES

The 1998 survey responses represent about 87.5 million gallons of architectural coatings sold in California in 1996. We believe that this represents about 97 percent of estimated total sales of architectural coatings in California. We arrived at this figure by taking 12 percent of the 1996 national architectural coatings sales figures reported by the United States Census Bureau, since California's population in 1996 was 12 percent of the nation's population.

This section includes the following figures:

- Figure 2-1 shows the proportion of the 87.5 million gallons that were sold in one quart or smaller containers (5%), and those sold in containers larger than one quart (95%).
- Figure 2-2 shows the breakout of water-borne (82%) and solvent-borne (18%) coatings, as a percentage of the total volume of architectural coatings sold.
- Figure 2-3 shows the top ten categories of architectural coatings, as surveyed, by volume. The top ten categories account for about 88 percent of the total volume sold, or approximately 77 million gallons.
- Figure 2-4 shows the total sales by category for all the categories surveyed.
- Figure 2-5 that shows the solvent-borne and water-borne breakouts by category.
- Figure 2-6 shows the quart and greater than a quart breakouts.
- Figure 2-7 shows the sales volume by category arranged in descending order.

Figure 2-1
Total Sales Volume
87.5 million gallons
(quart breakout)

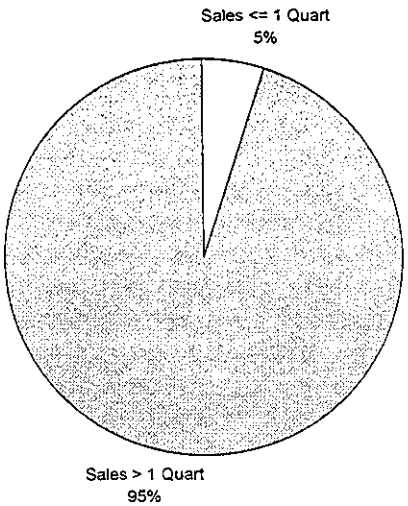


Figure 2-2
Total Sales Volume
87.5 million gallons
(Water-Borne & Solvent-Borne breakout)

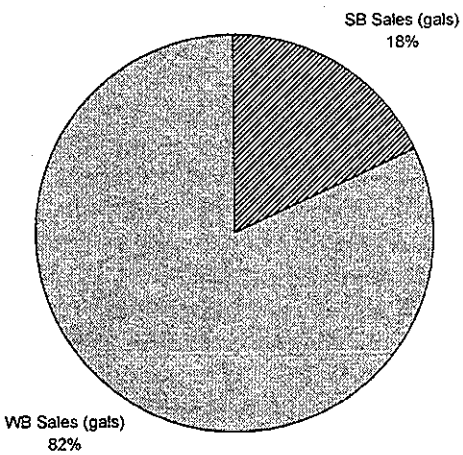


Figure 2-3
Top 10 Categories
(Total Sales Volume = 87.5 million gallons)

The Top 10 categories account for 88 % of total sales
or approximately 77 million gallons.

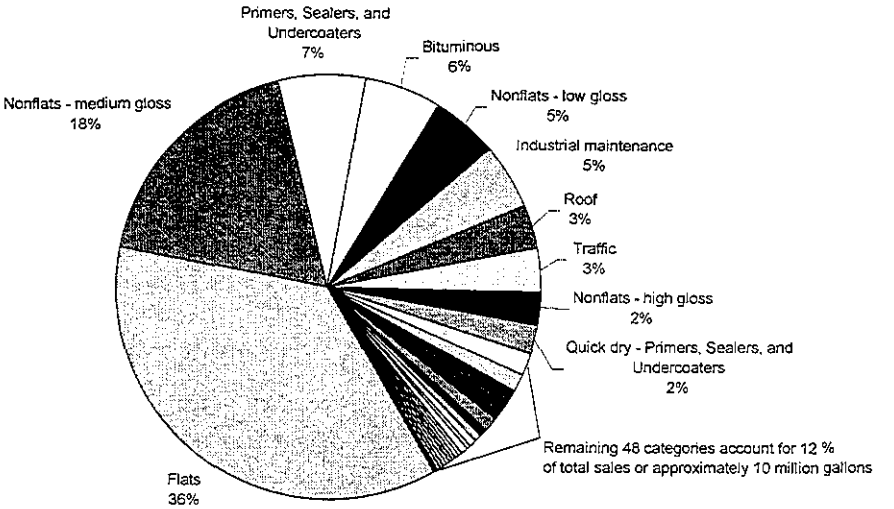


Figure 2-4
Total Sales by Volume
by Category

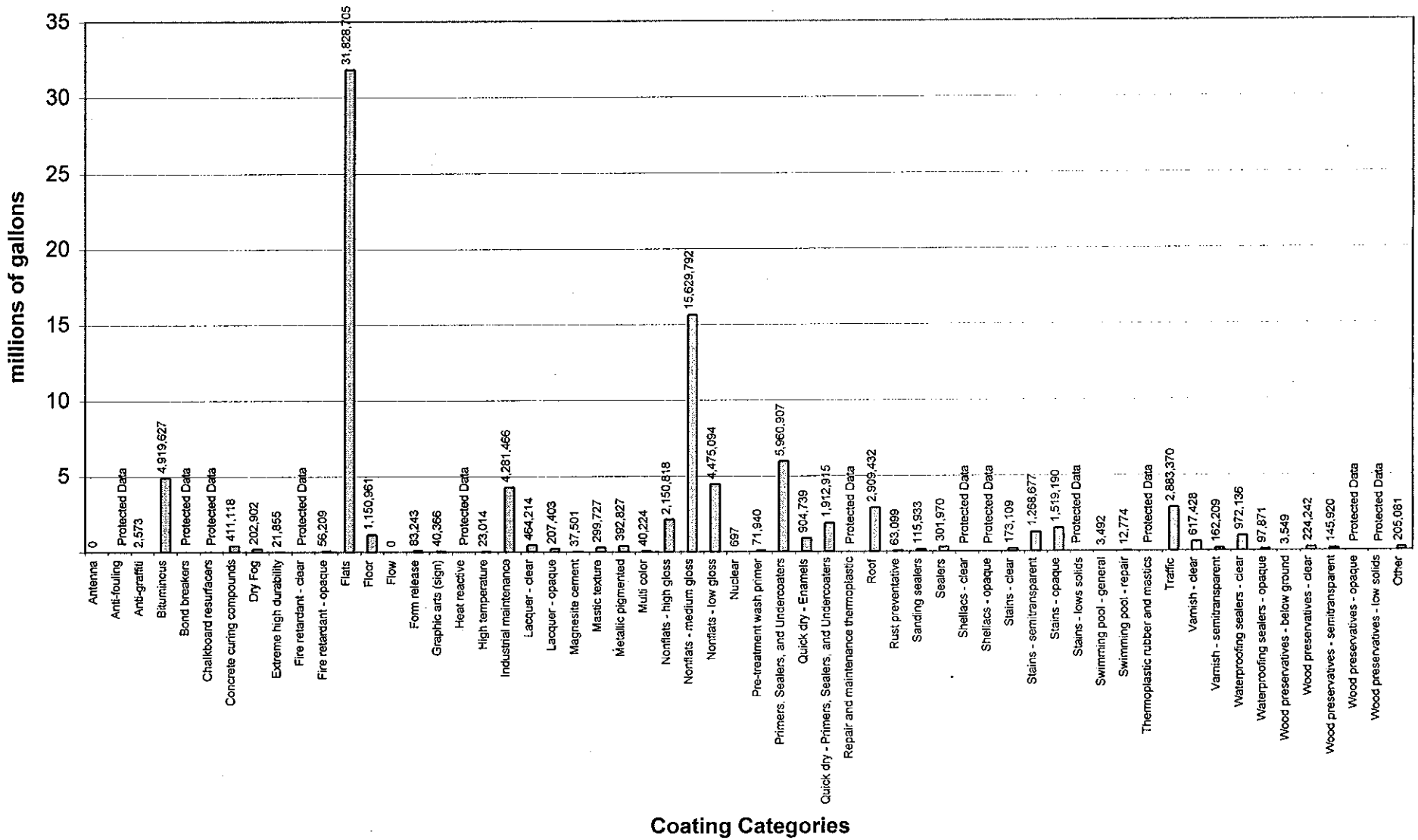


Figure 2-5
Total Sales by Volume
by Category
(Solvent-Borne & Water-Borne breakout)

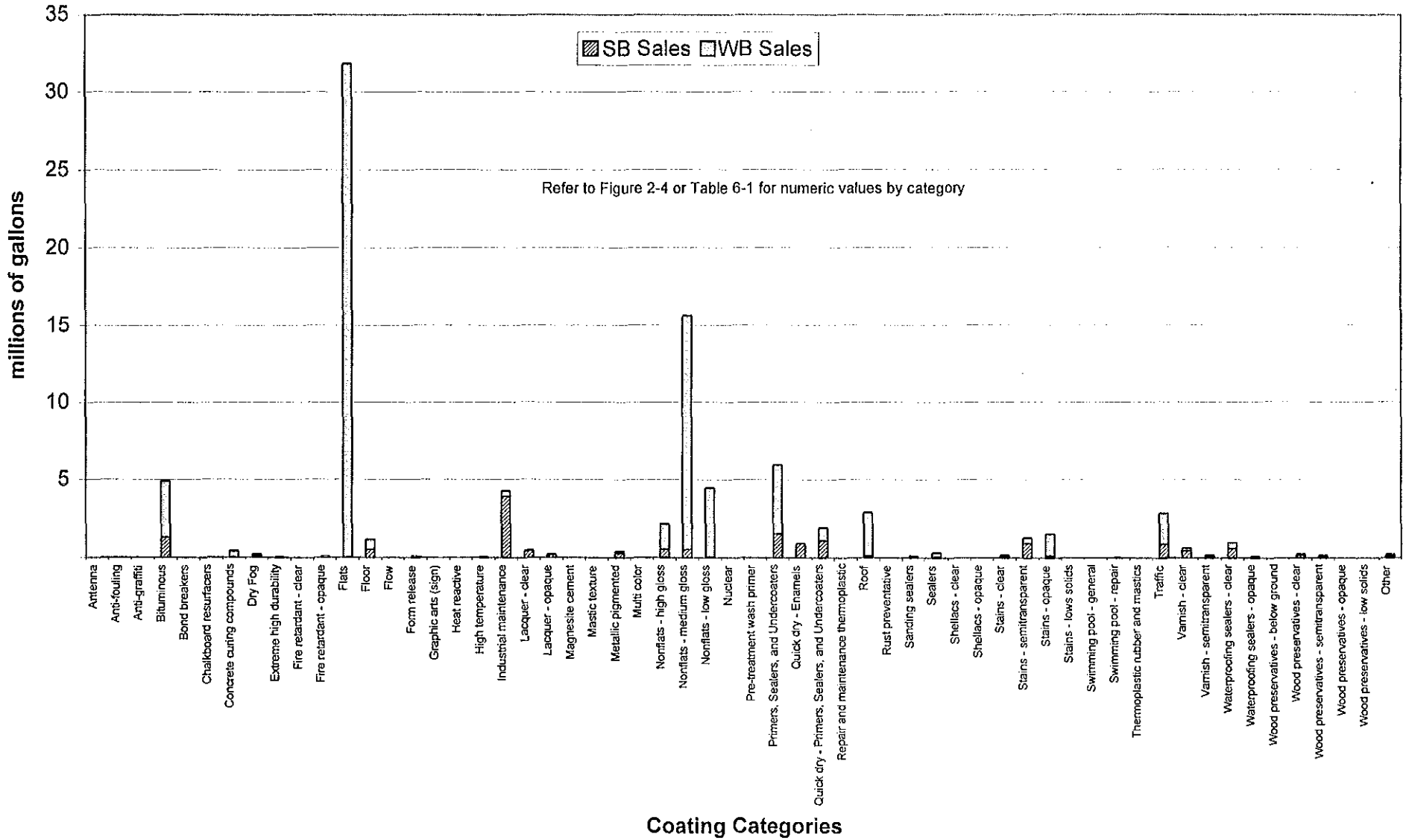


Figure 2-6
Total Sales Volume
by Category
(quart breakout)

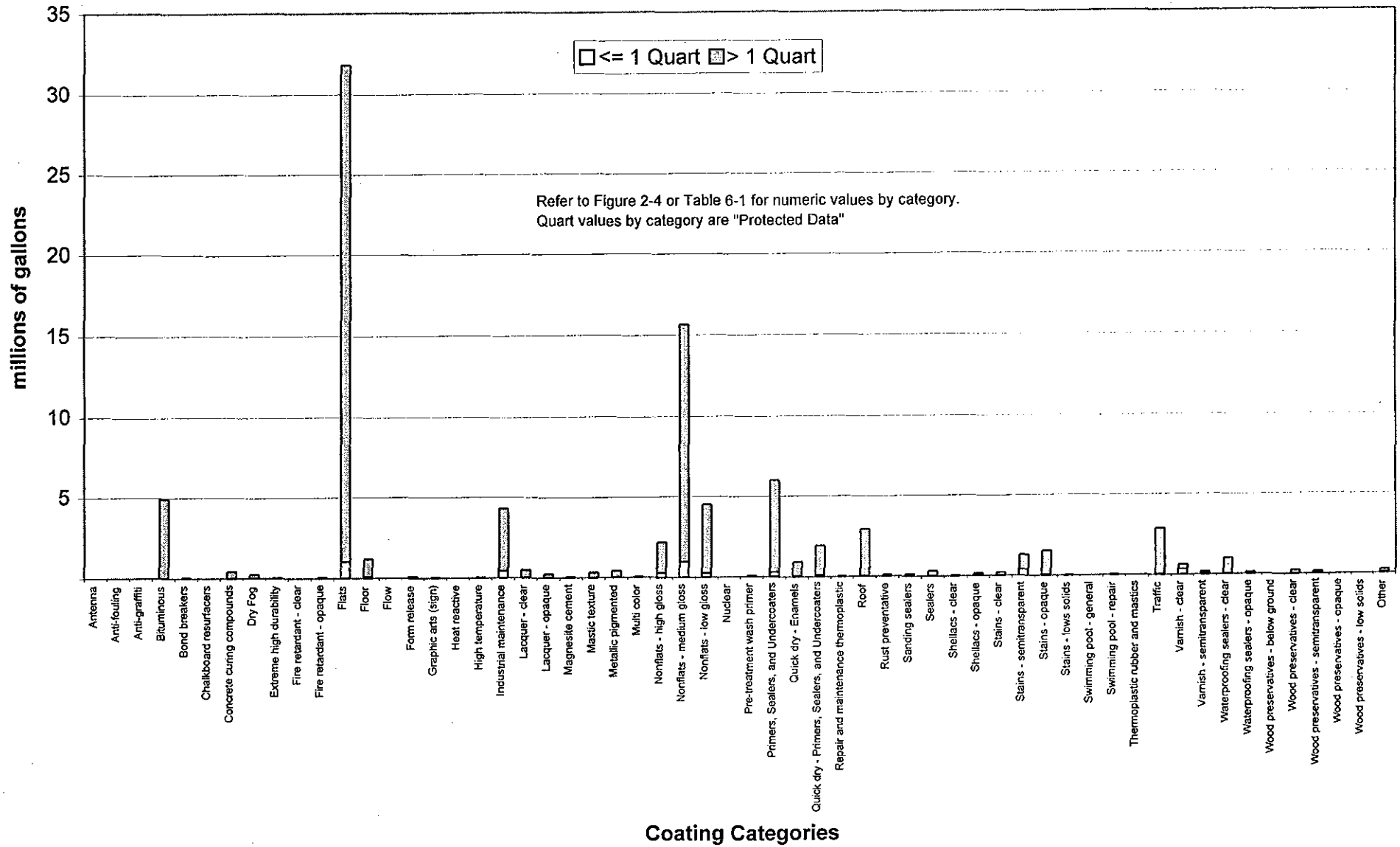
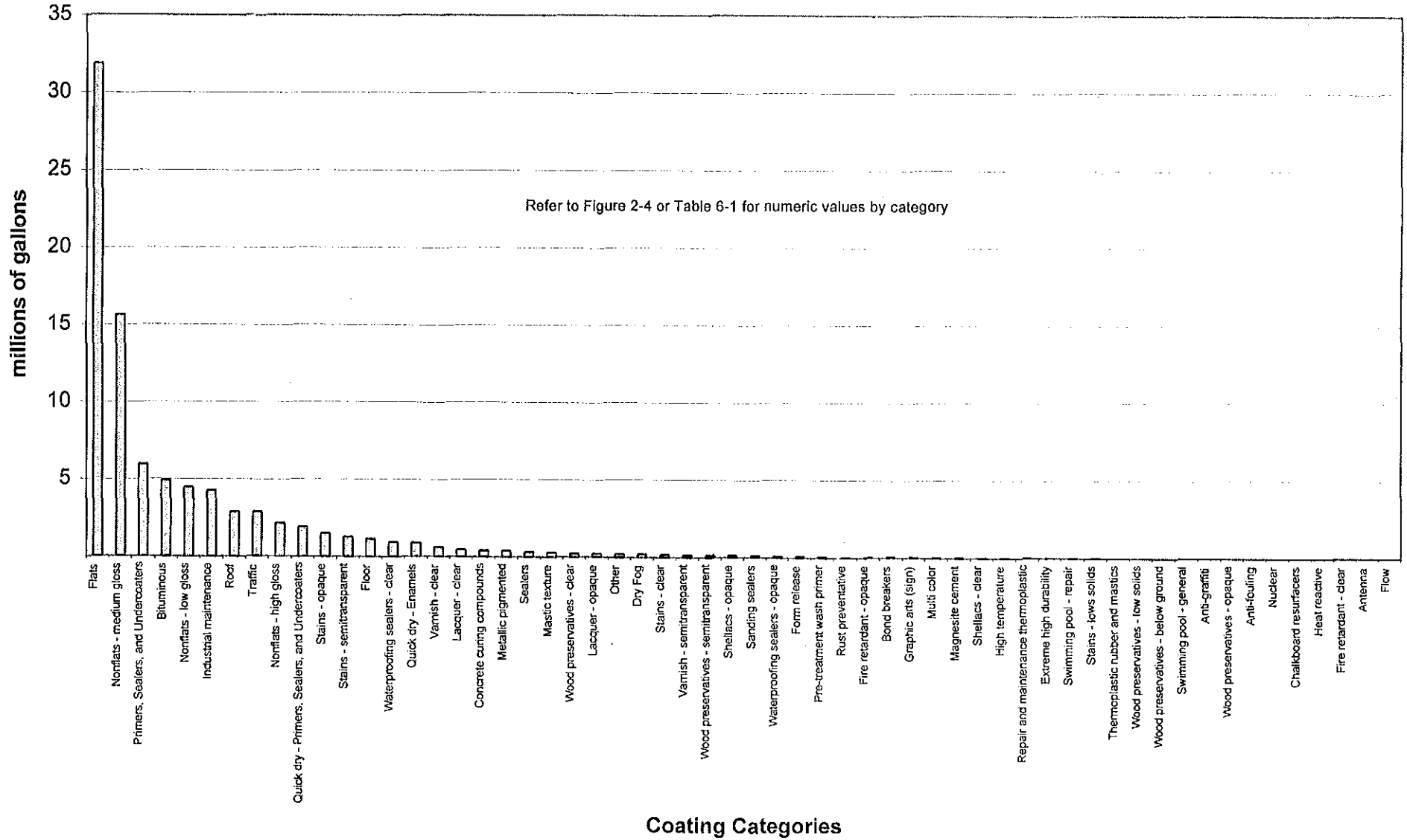


Figure 2-7
Total Sales by Volume (Descending) by Category



Chapter 3 – Emissions

Emissions in 1996 from architectural coatings, as estimated from the 1998 survey data, are about 36,300 tons of VOC per year, or about 100 tons per day. The emissions estimated from the 1998 survey are calculated by multiplying the weight of VOC in each coating by the coating volumes for each category, with the appropriate conversion factors. The emissions presented in these figures do not include emissions from thinning and clean-up associated with solvent-borne coatings, which are included in the ARB's emissions inventory for architectural coatings .

This section includes the following figures:

- Figure 3-1 shows the split between emissions from solvent-borne and water-borne coatings.
- Figure 3-2 depicts the top ten 1998 architectural coatings survey categories by emissions. The top ten emission categories account for about 76 percent of the total emissions, or about 27,600 tons per year.
- Figure 3-3 shows the emissions for all categories in tons per year.
- Figure 3-4 shows the solvent-borne and water-borne breakouts within each category.
- Figure 3-5 shows the data arranged in descending order by emissions.

NOTE: Figures 3-1 through 3-5 do not include emissions from thinning and clean-up. If they did, the solvent-borne portion of the emissions would be greater. For such information, the reader is referred to Chapter 8, Table 8-1 (1993 / 1998 Survey Comparisons).

Figure 3-1
Total Emissions
36,300 tons per year
(Solvent-Borne & Water-Borne breakout)

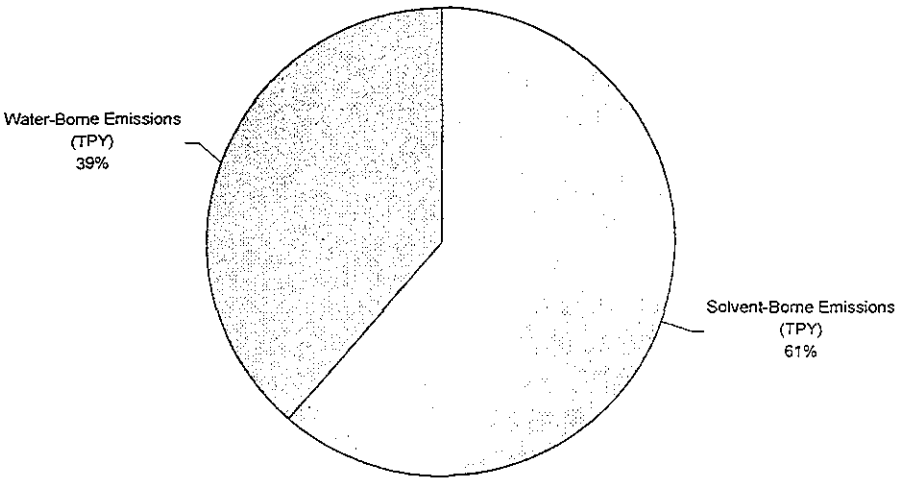


Figure 3-2
Top 10 Emission Categories
(Total Emissions = 36,300 TPY)

The Top 10 categories account for 76 % of total emissions or approximately 27,600 tons per year.

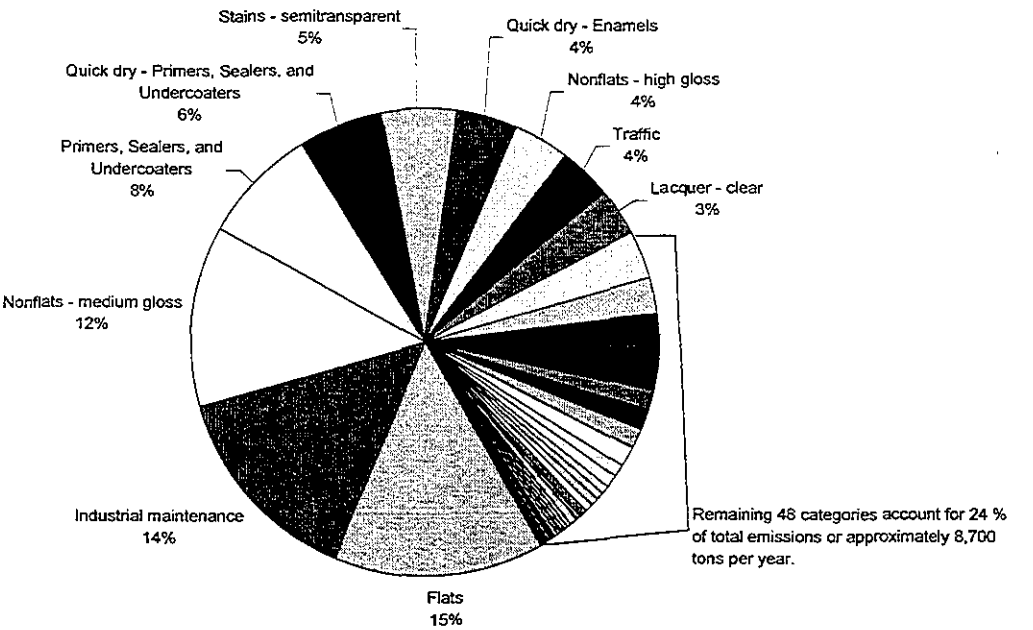


Figure 3-3
Total Emissions
by Category

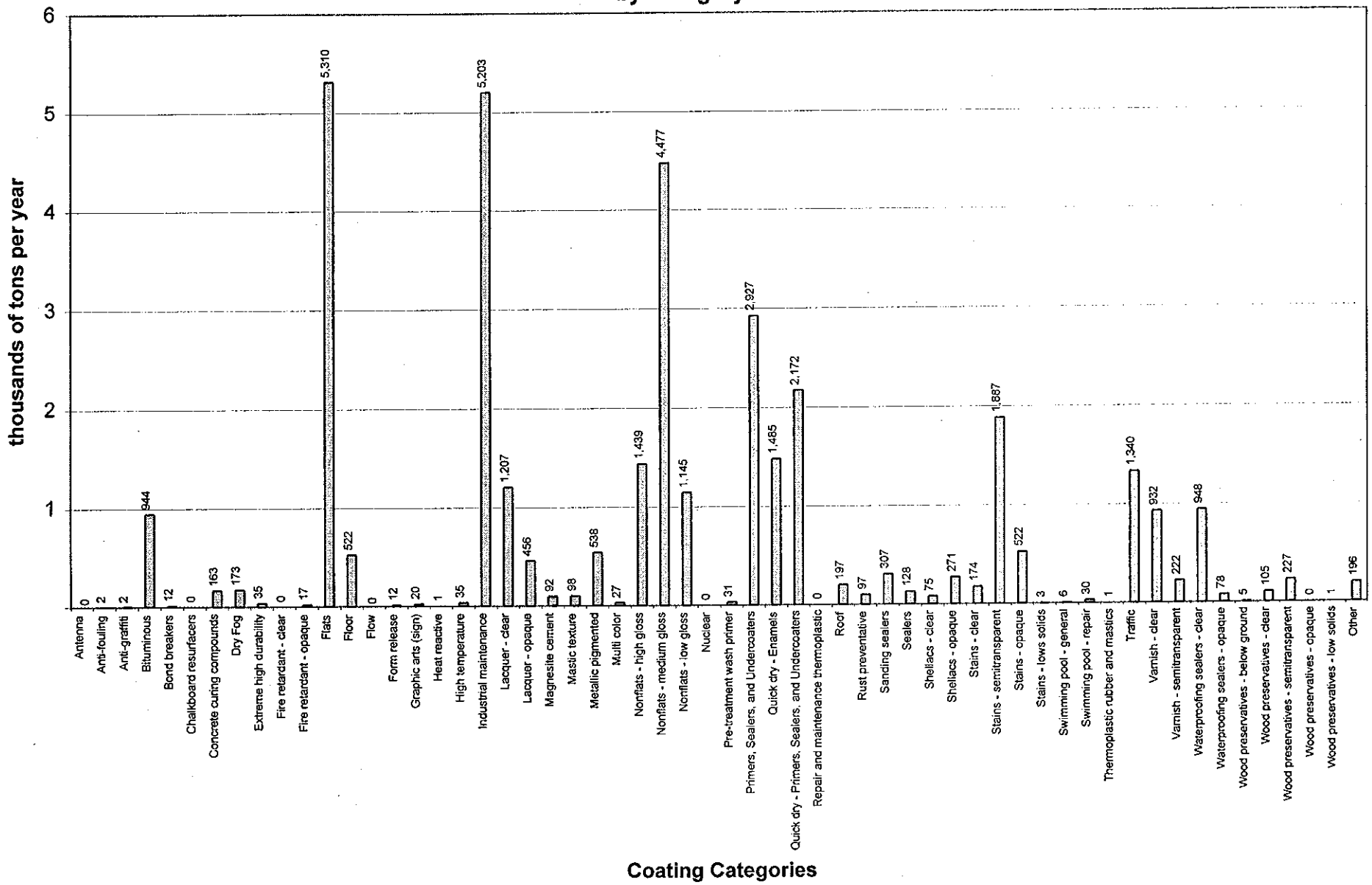


Figure 3-4
Total Emissions
by Category
(Solvent-Borne & Water-Borne breakout)

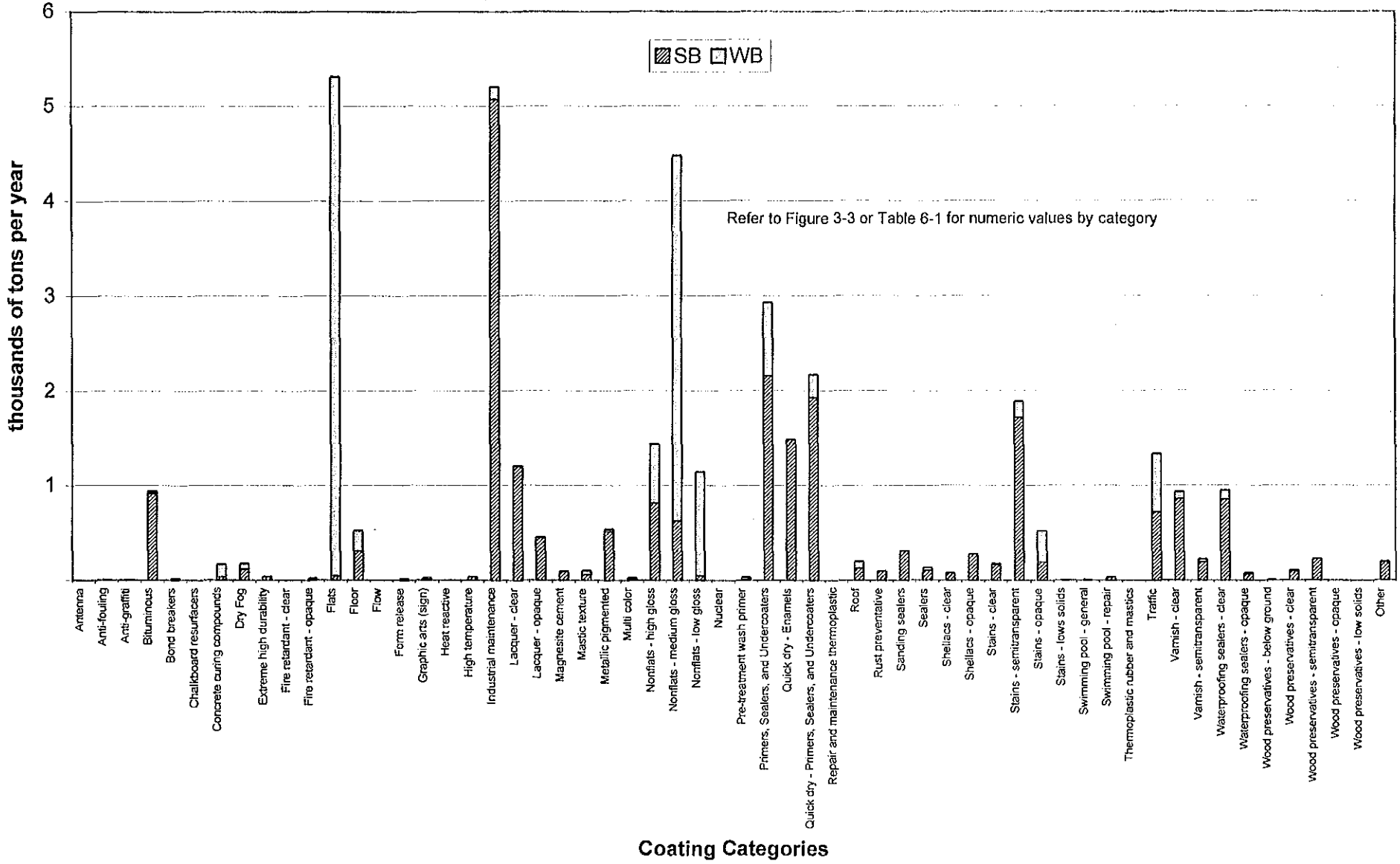
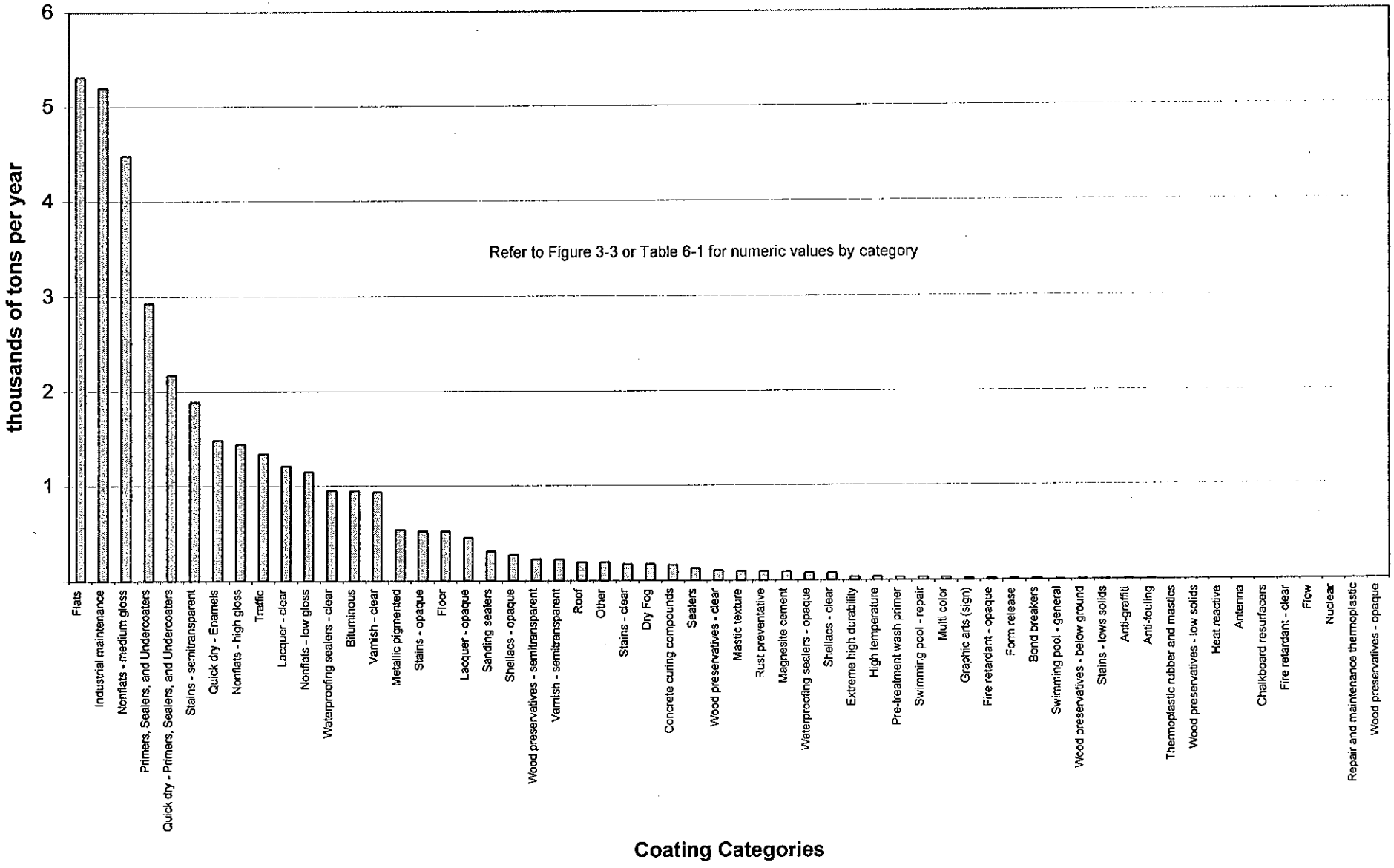


Figure 3-5
Total Emissions (Descending)
by Category



Chapter 4 – VOC Contents

The VOC contents presented here are what are typically referred to as the "VOC content, less water and less exempt solvents". We called this "$VOC_{regulatory}$" in the 1998 survey. These figures simply present the sales-weighted average $VOC_{regulatory}$ contents, in grams per liter, by category.

This section includes the following figures:

- Figure 4-1 shows the overall sales-weighted average $VOC_{regulatory}$ content by category.
- Figure 4-2 shows the solvent-borne sales-weighted average $VOC_{regulatory}$ content by category.
- Figure 4-3 shows the water-borne sales-weighted average $VOC_{regulatory}$ content by category.

Figure 4-1
Overall Sales Weighted Average of VOC Regulatory by Category

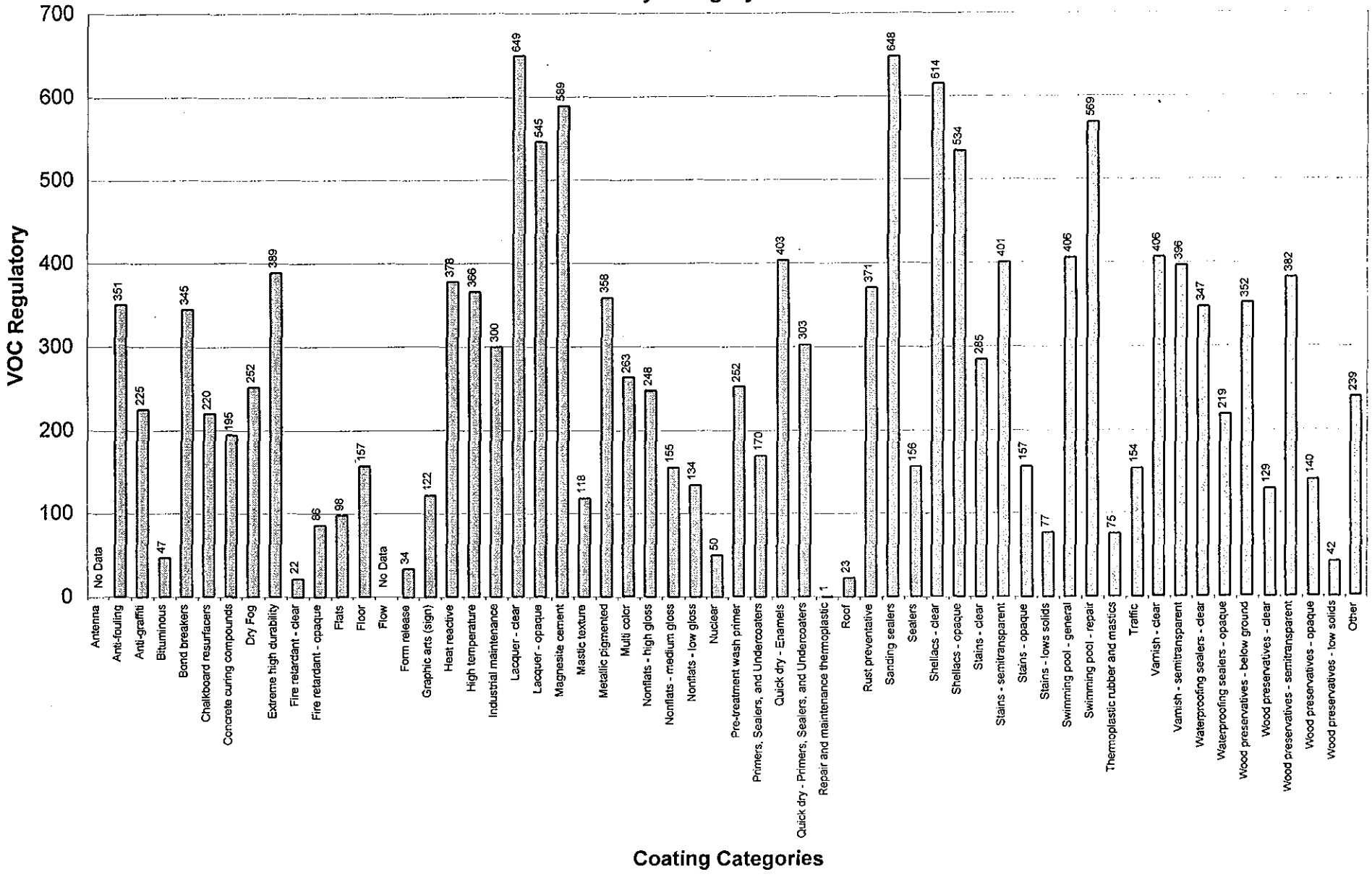


Figure 4-2
Sales Weighted Average of VOC Regulatory by Category (Solvent-Borne)

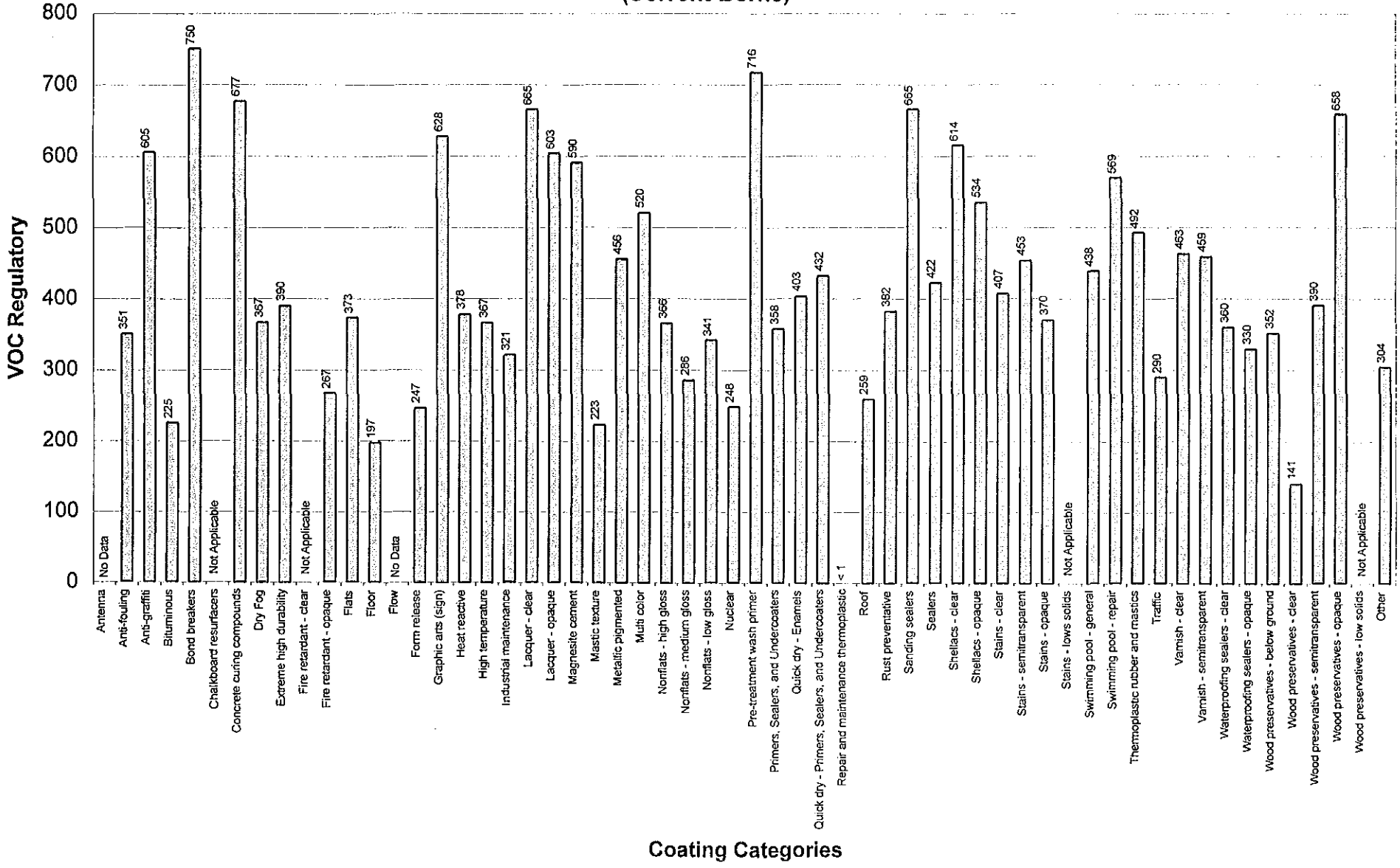
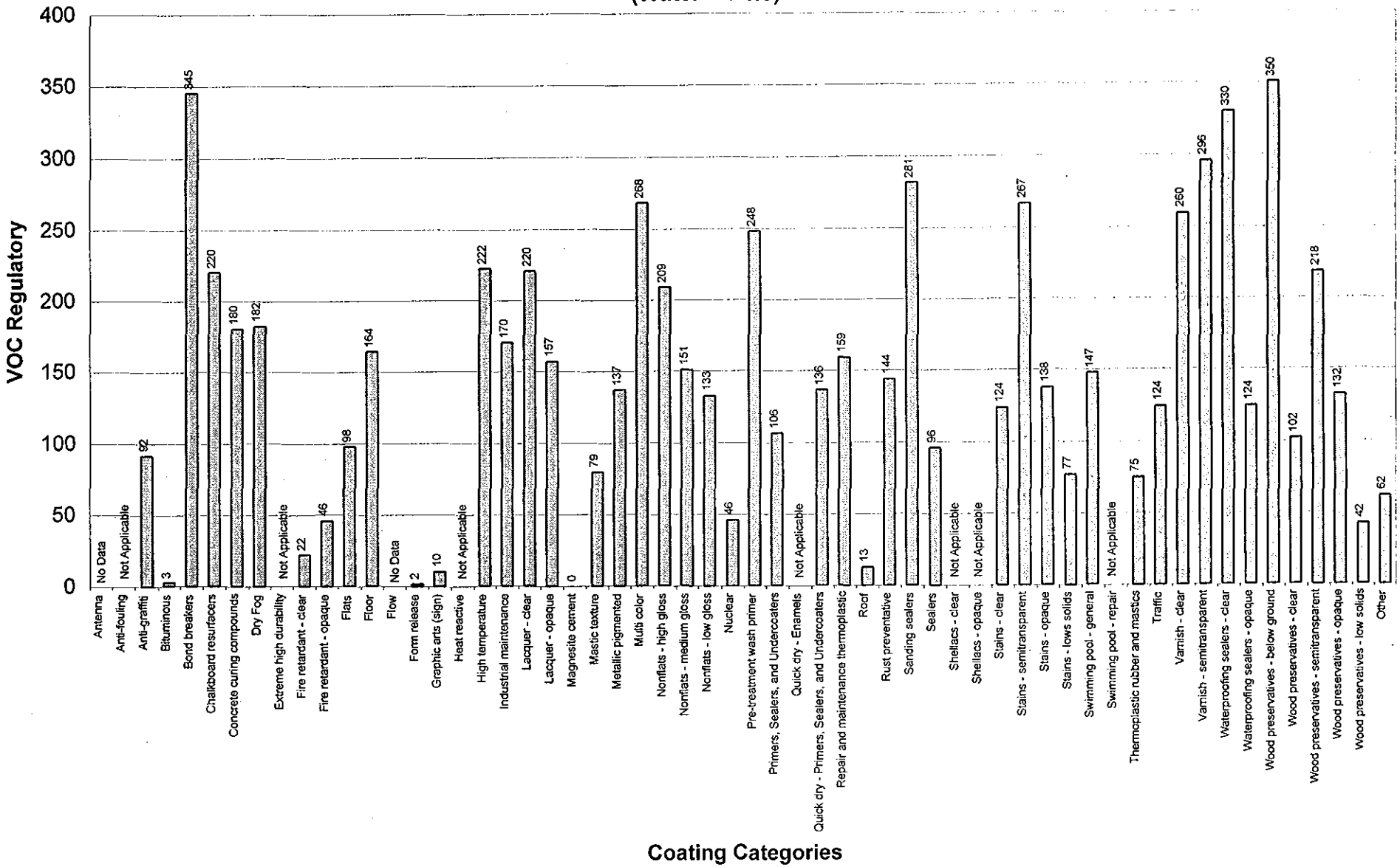


Figure 4-3
Sales Weighted Average of VOC Regulatory by Category (Water-Borne)



Chapter 5 - Histograms & Cumulative Percent Graphs

The histogram graphs of VOC $_{Regulatory}$ (grams/liter) and coating sales (gallons) were generated for all 58 coating categories to depict the relative distribution of sales volume in increments of 50 g/l. Each histogram contains a general summary of the category's total sales, sales displayed, total emissions, and the overall VOC $_{Regulatory}$ (g/l) as a sales weighed average (SWA). VOC $_{Regulatory}$ ranges that could not be displayed without compromising the "Three Company Rule" contain the words "Protected Data." If a VOC range is not shown, it is because there are no data for that range.

The cumulative percent graphs were also generated for all 58 coatings categories to depict the percent of market volume complying as VOC $_{Regulatory}$ increases. These graphs were provided to compliment the histograms, especially in categories where the histograms have large areas of "Protected Data."

Figure 5-1
Antenna

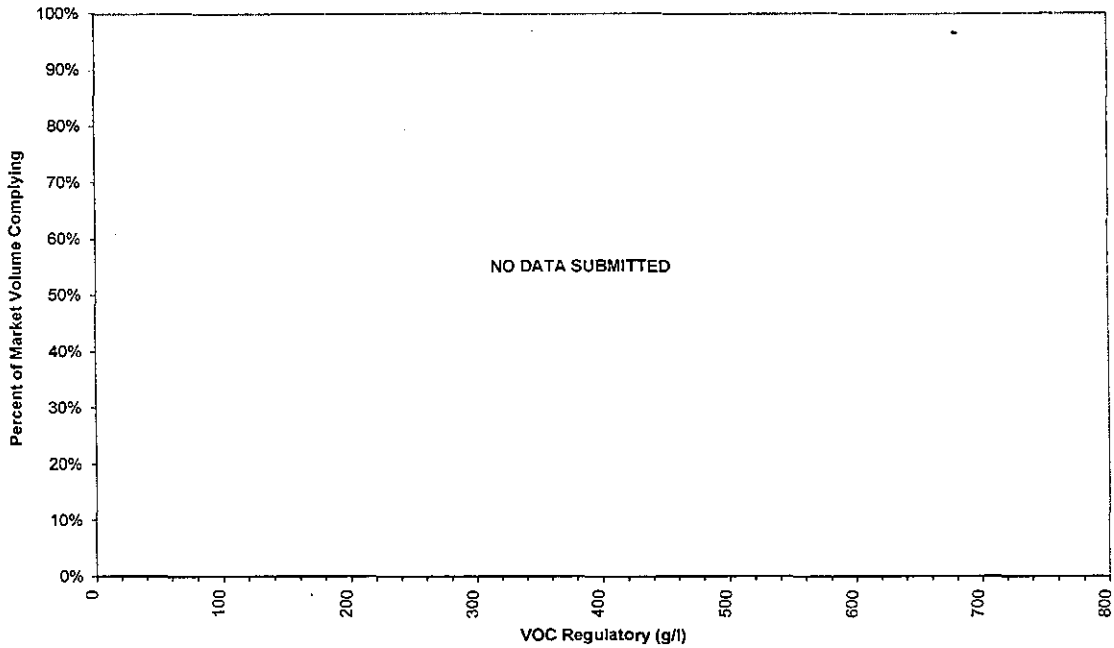


Figure 5-2
Antenna

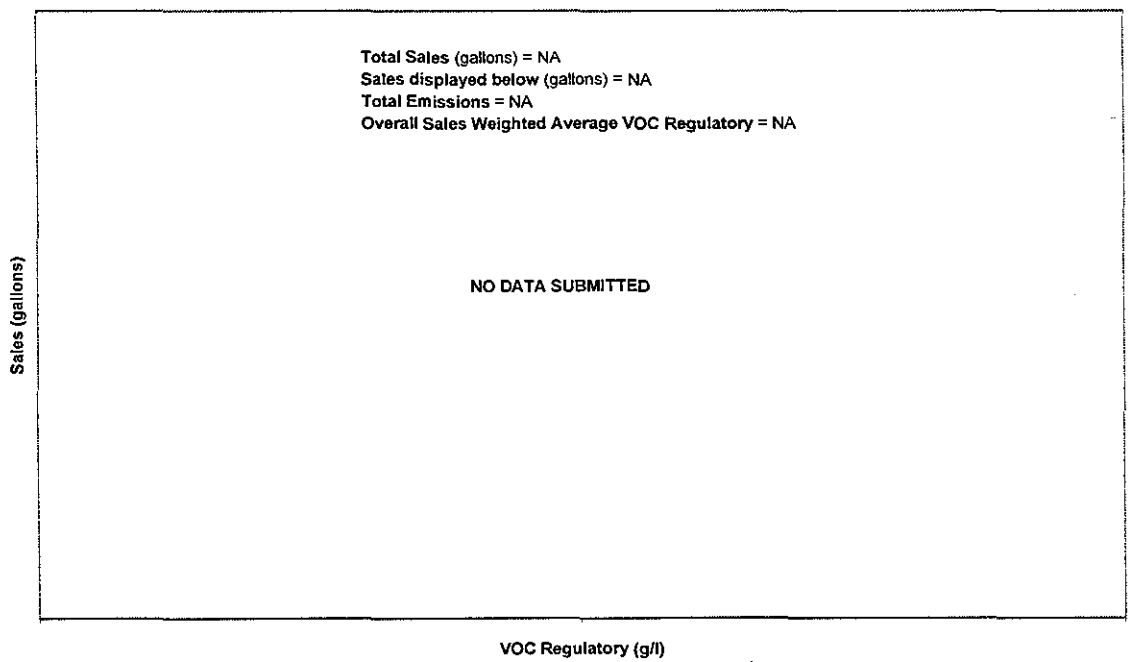


Figure 5-3
Anti-fouling

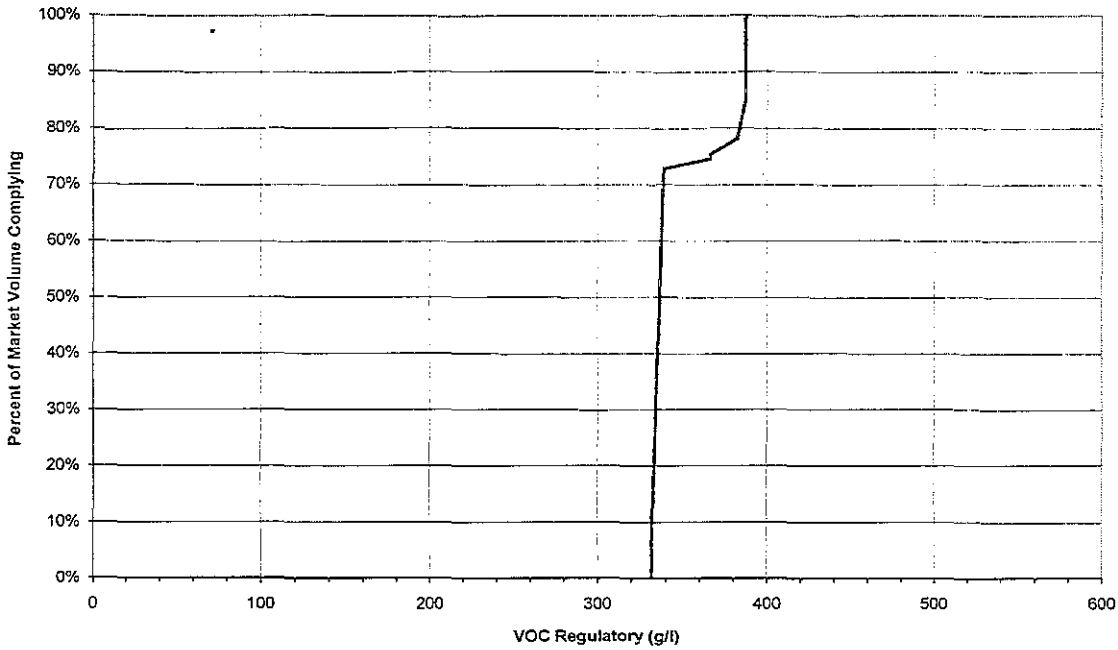


Figure 5-4
Anti-Fouling

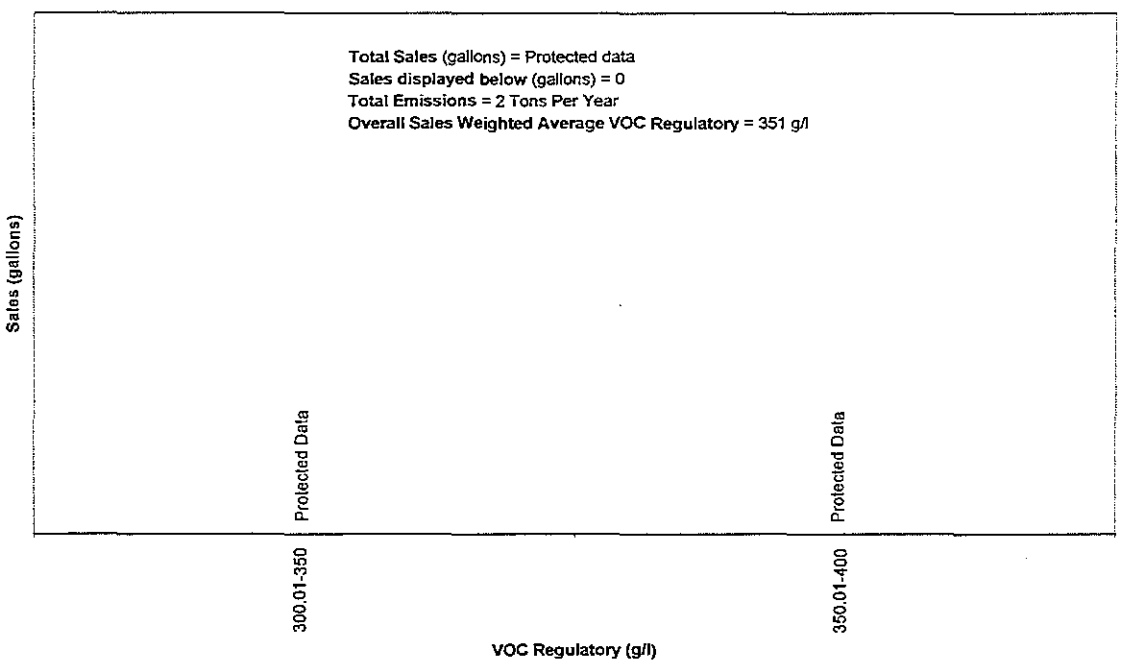


Figure 5-5
Anti-graffiti

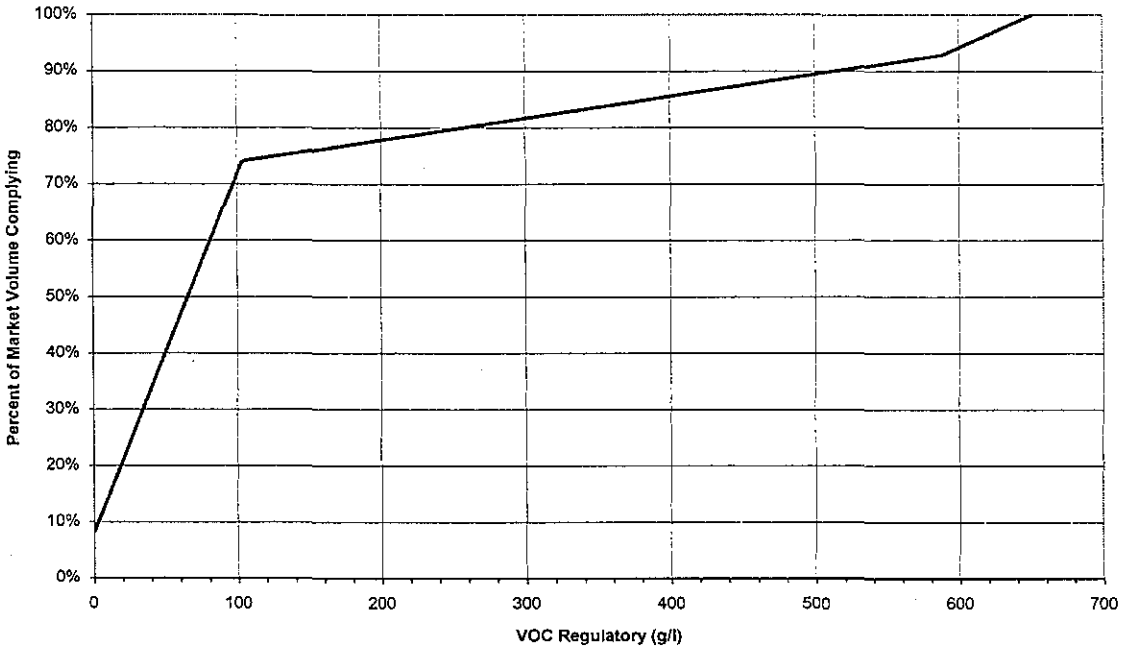


Figure 5-6
Anti-Graffiti

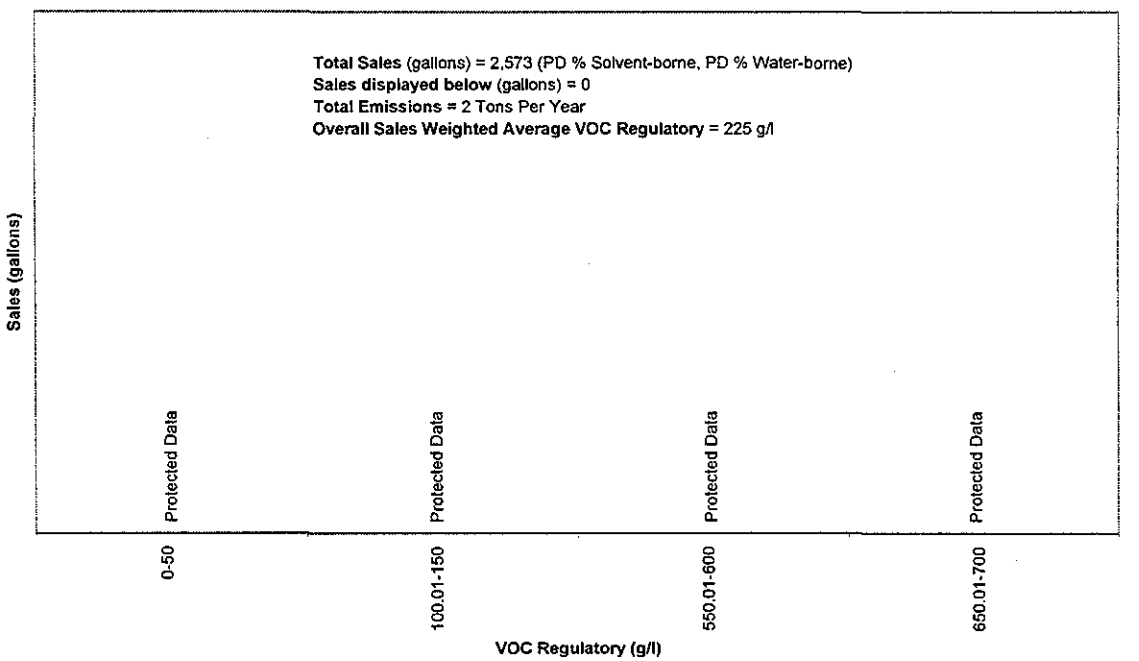


Figure 5-7
Bituminous

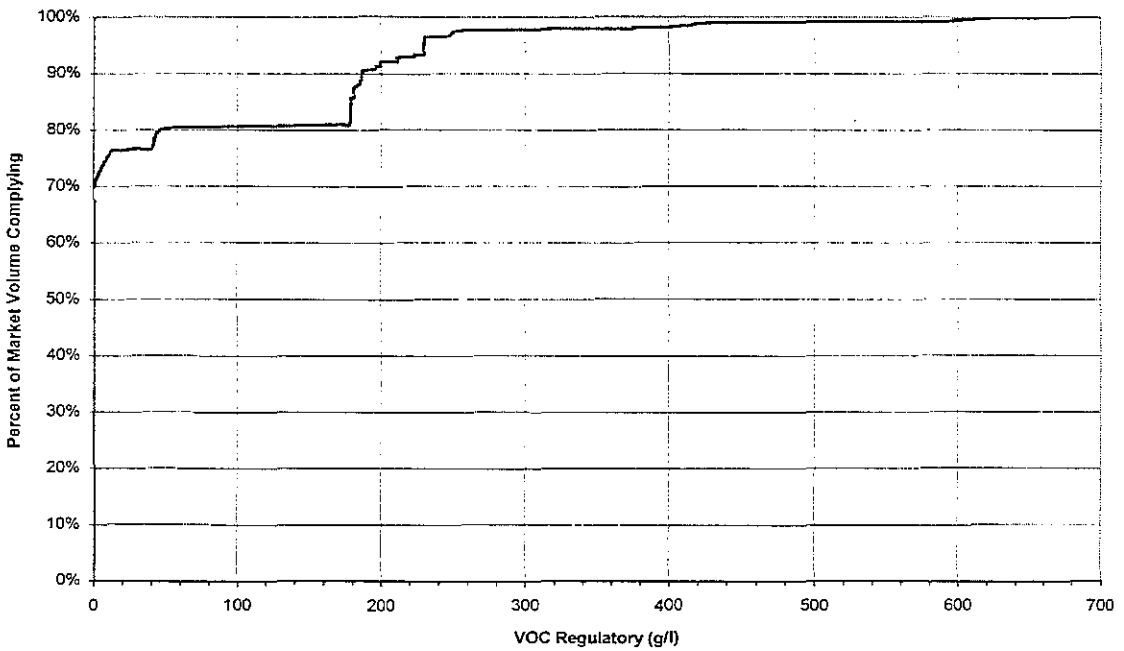


Figure 5-8
Bituminous

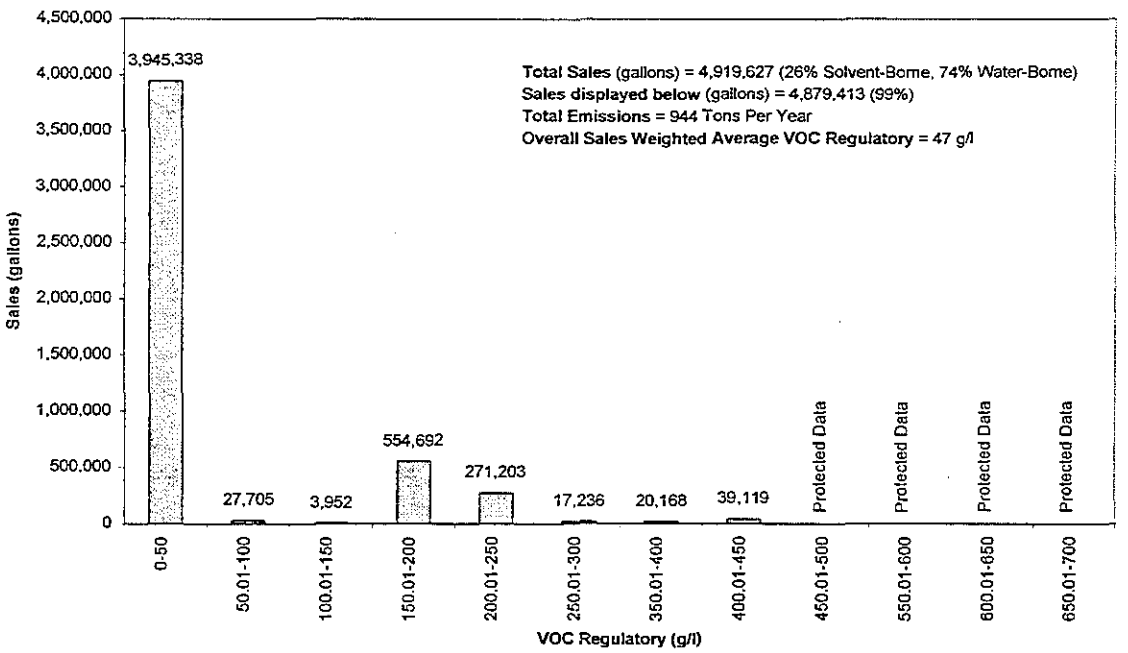


Figure 5-9
Bond Breaker

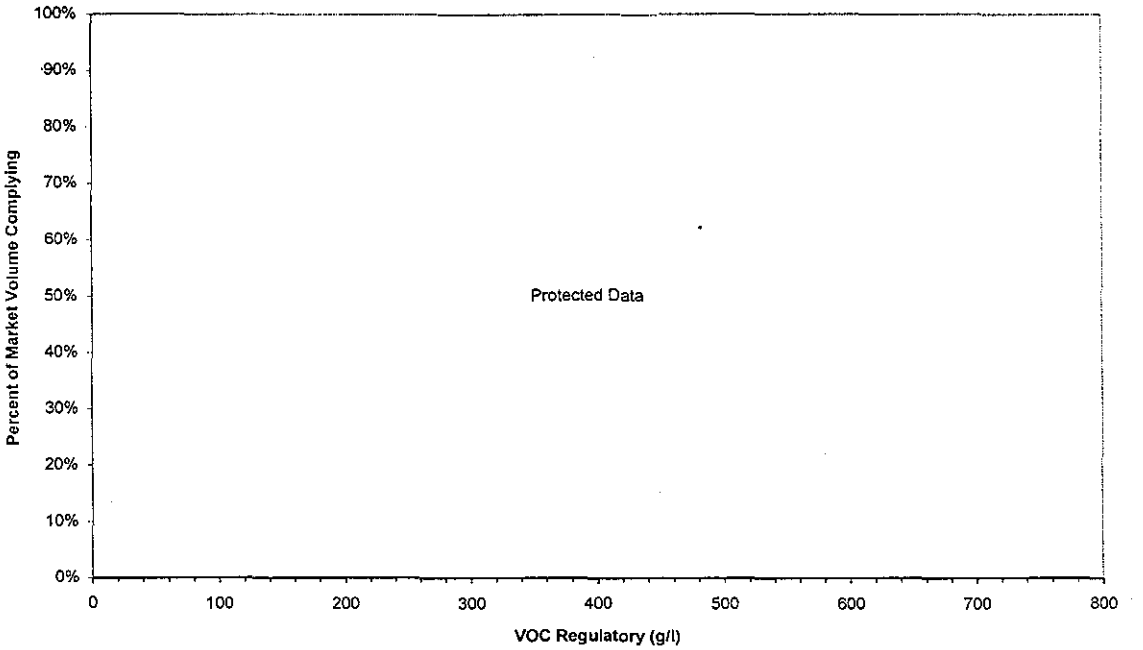


Figure 5-10
Bond Breaker

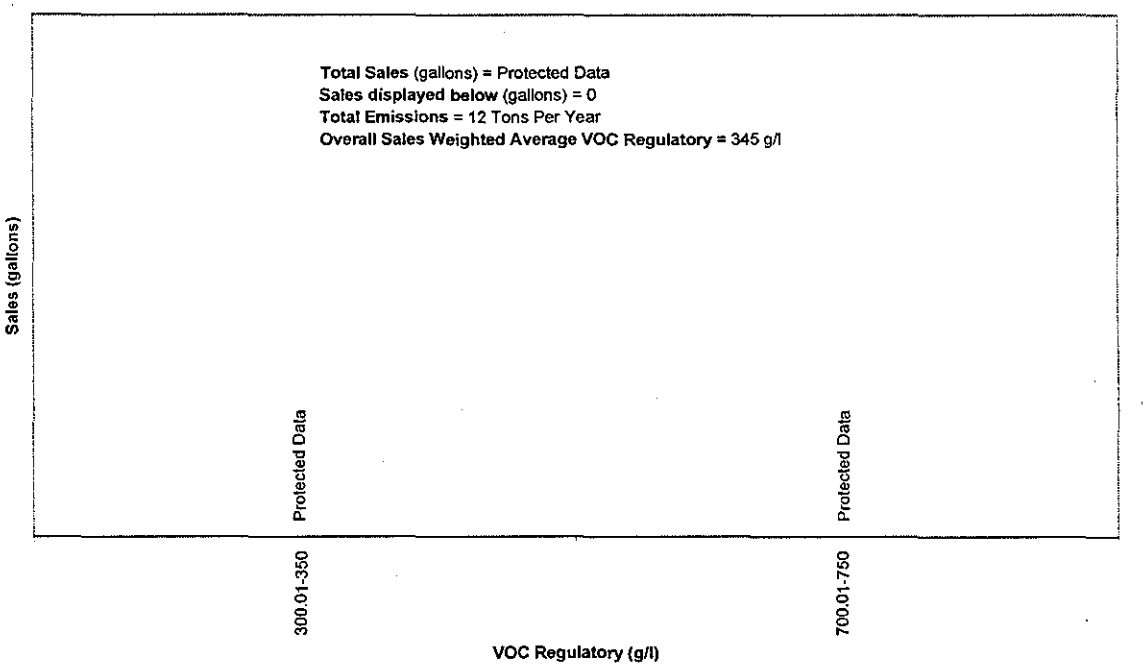


Figure 5-11
Chalkboard Resurfacer

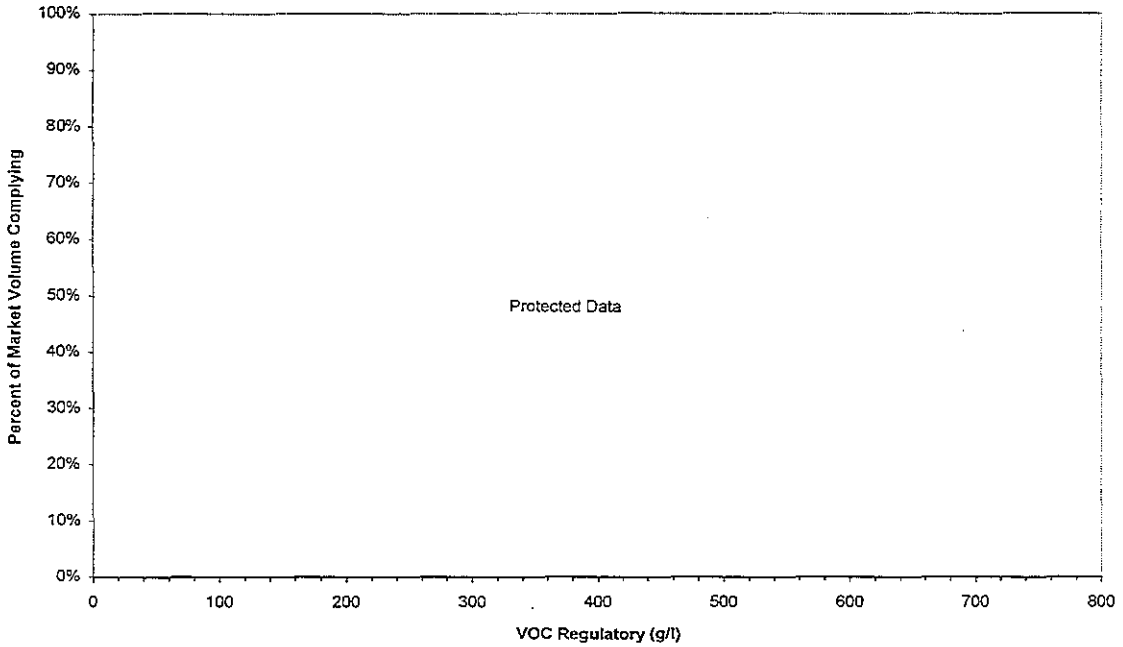


Figure 5-12
Chalkboard Resurfacer

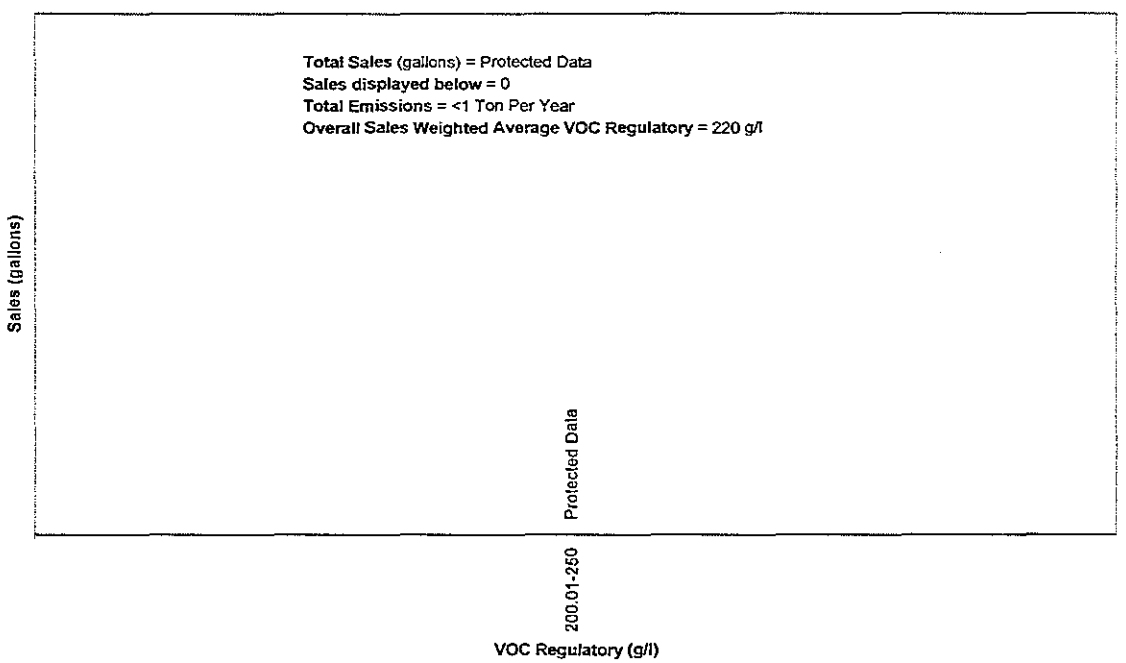


Figure 5-13
Concrete Curing Compound

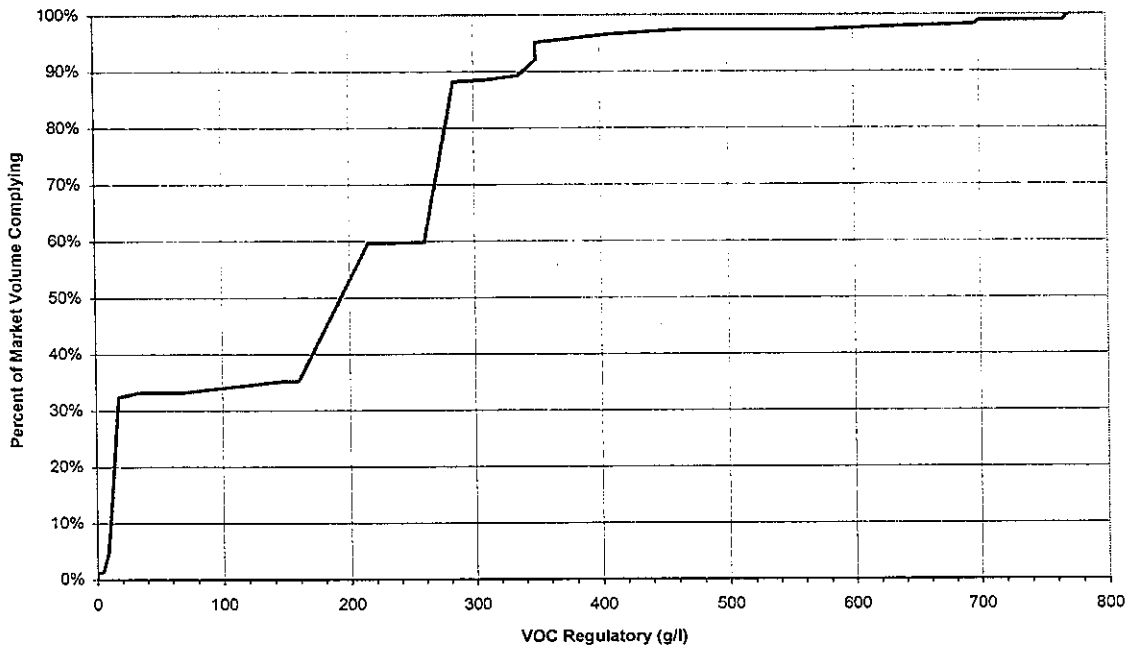


Figure 5-14
Concrete Curing Compund

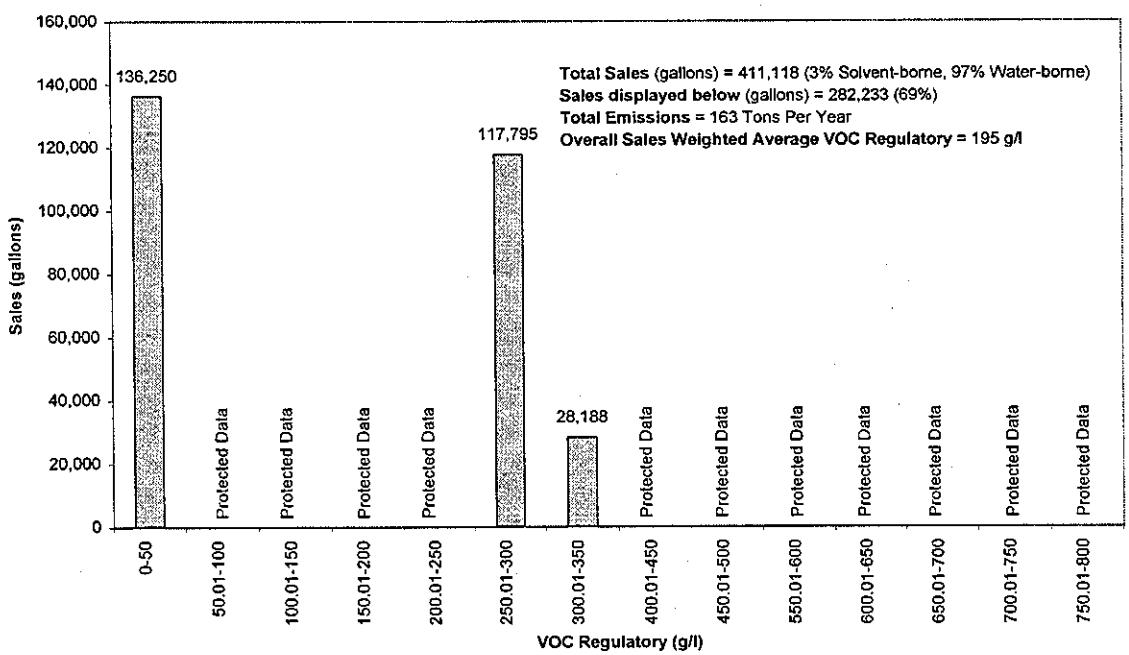


Figure 5-15
Dry Fog

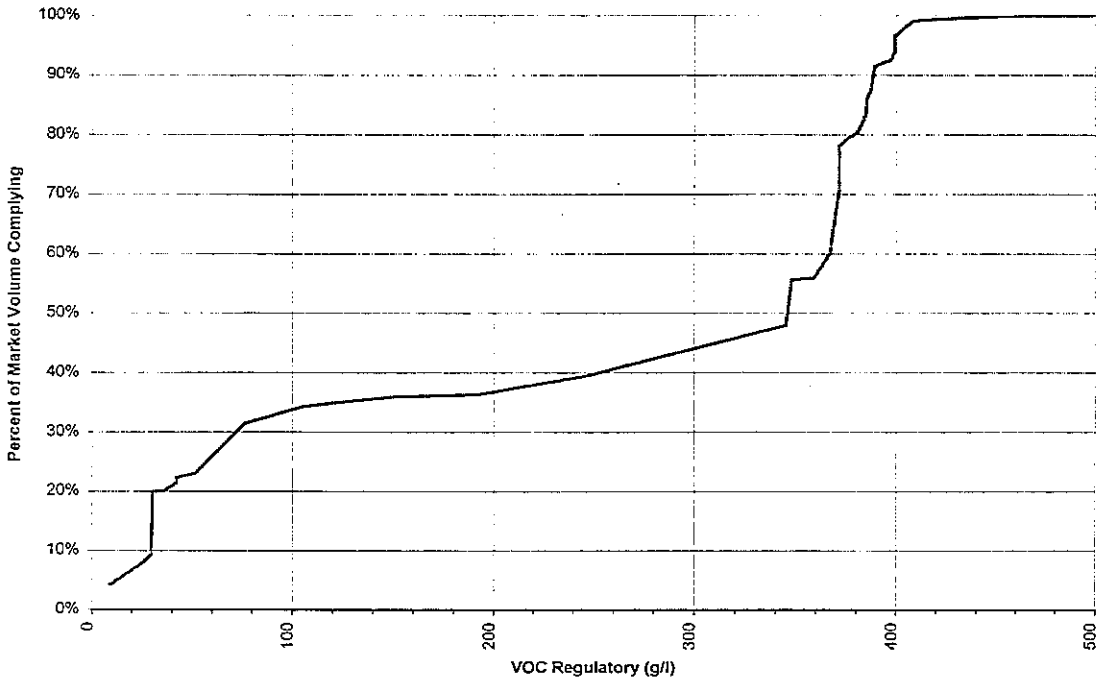


Figure 5-16
Dry Fog

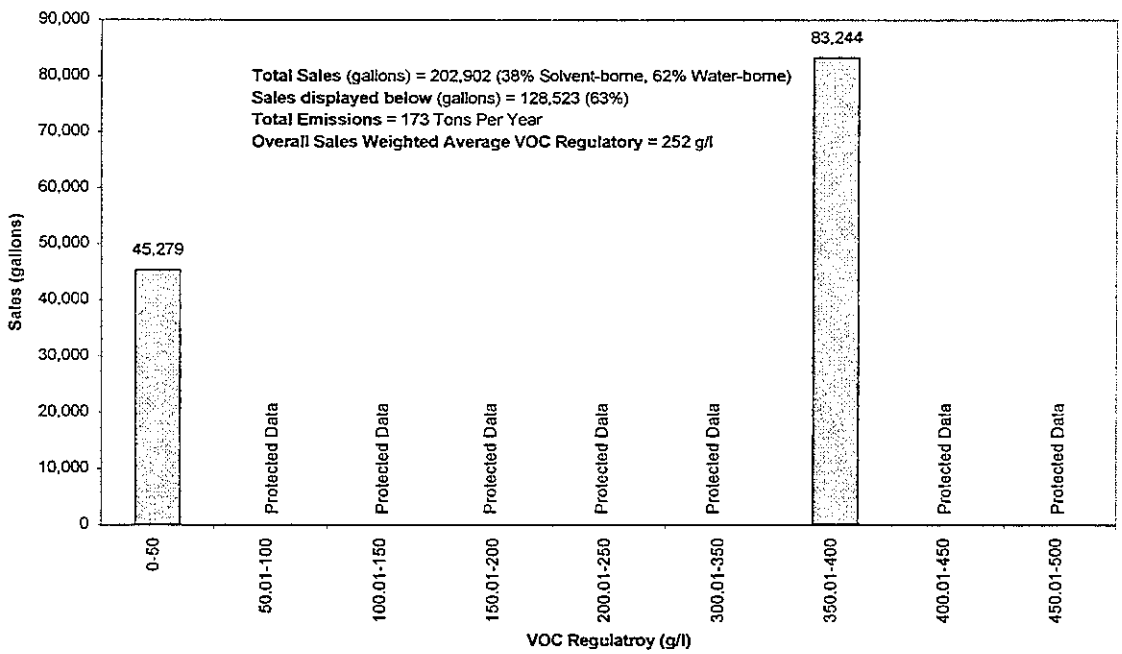


Figure 5-17
Extreme High Durability

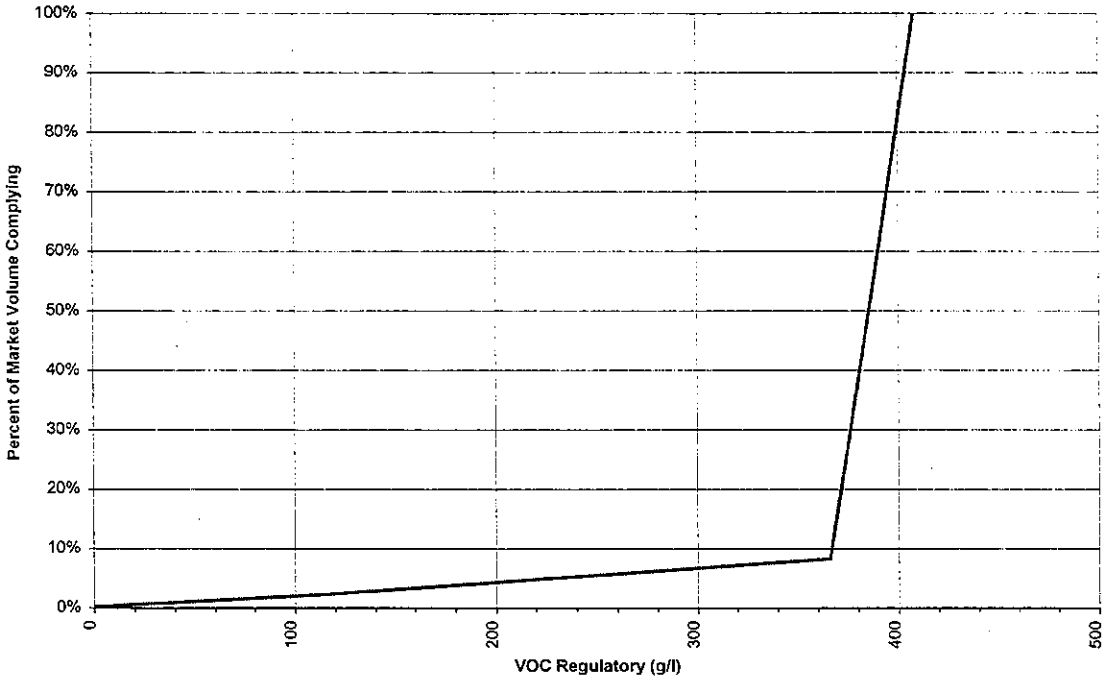


Figure 5-18
Extreme High Durability

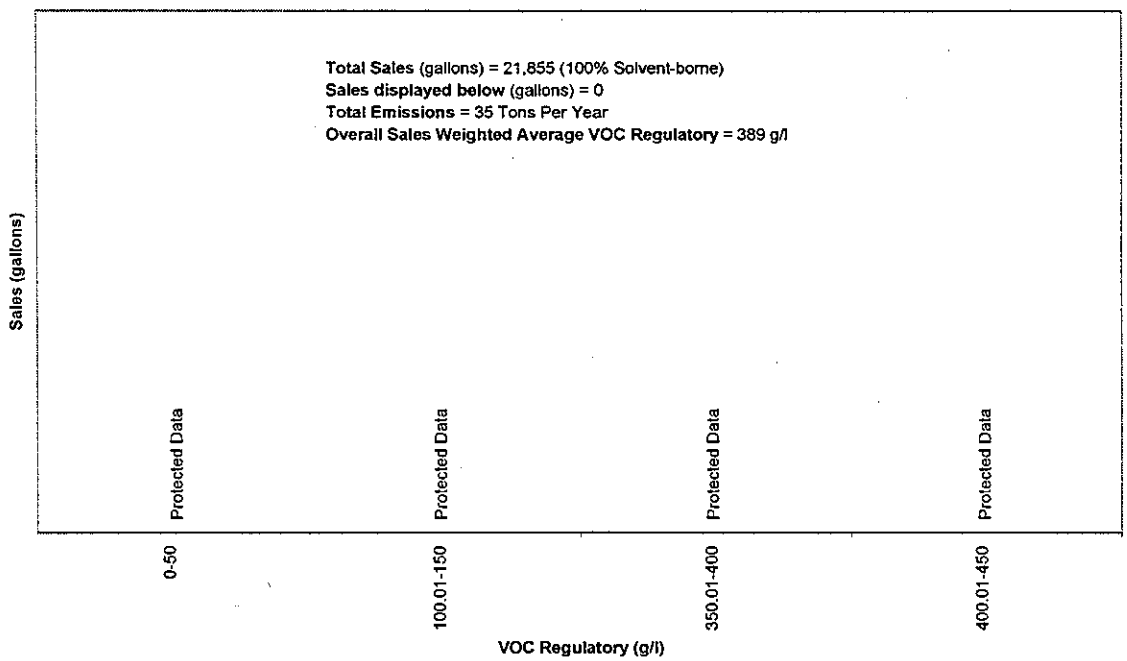


Figure 5-19
Fire Retardant - Clear

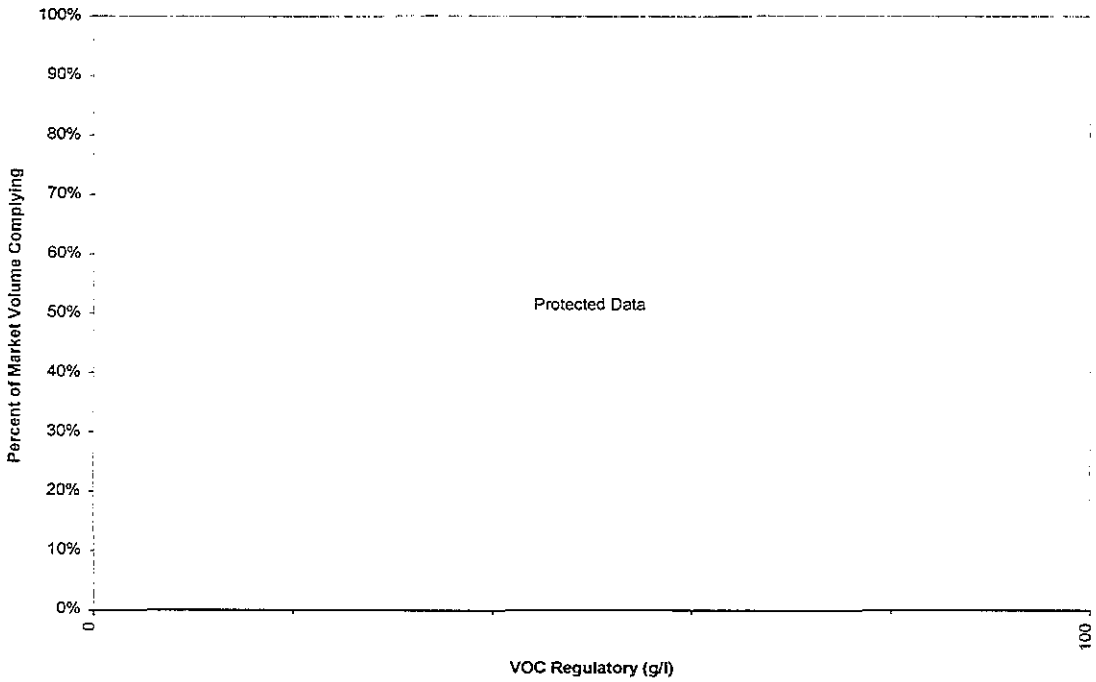


Figure 5-20
Fire Retardant - Clear

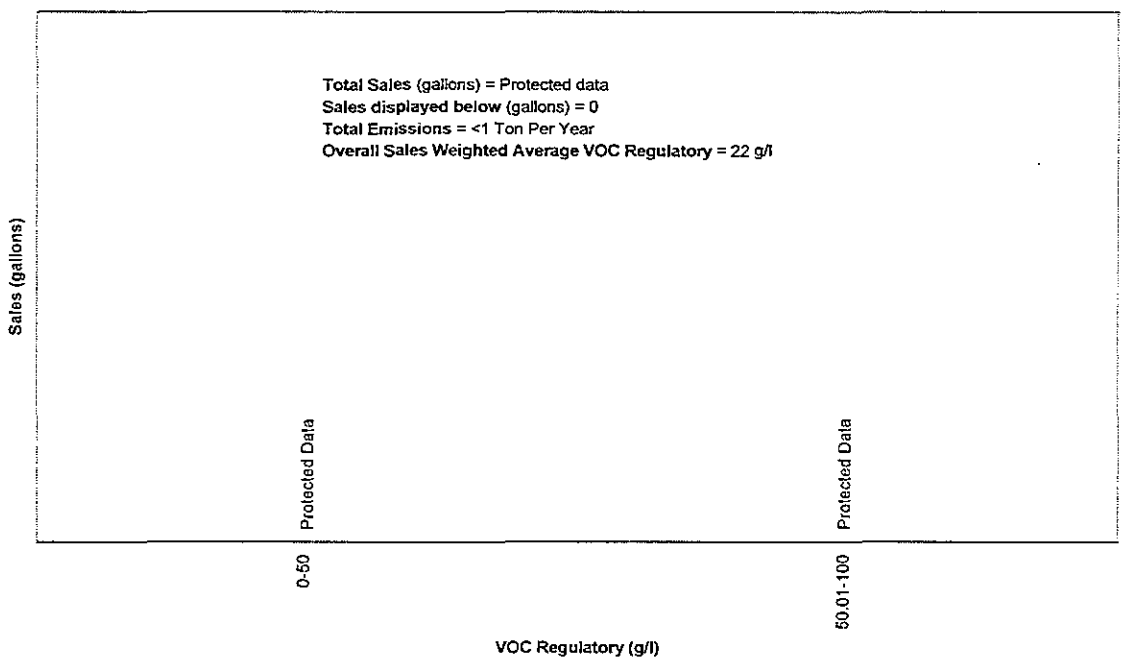


Figure 5-21
Fire Retardant - Opaque

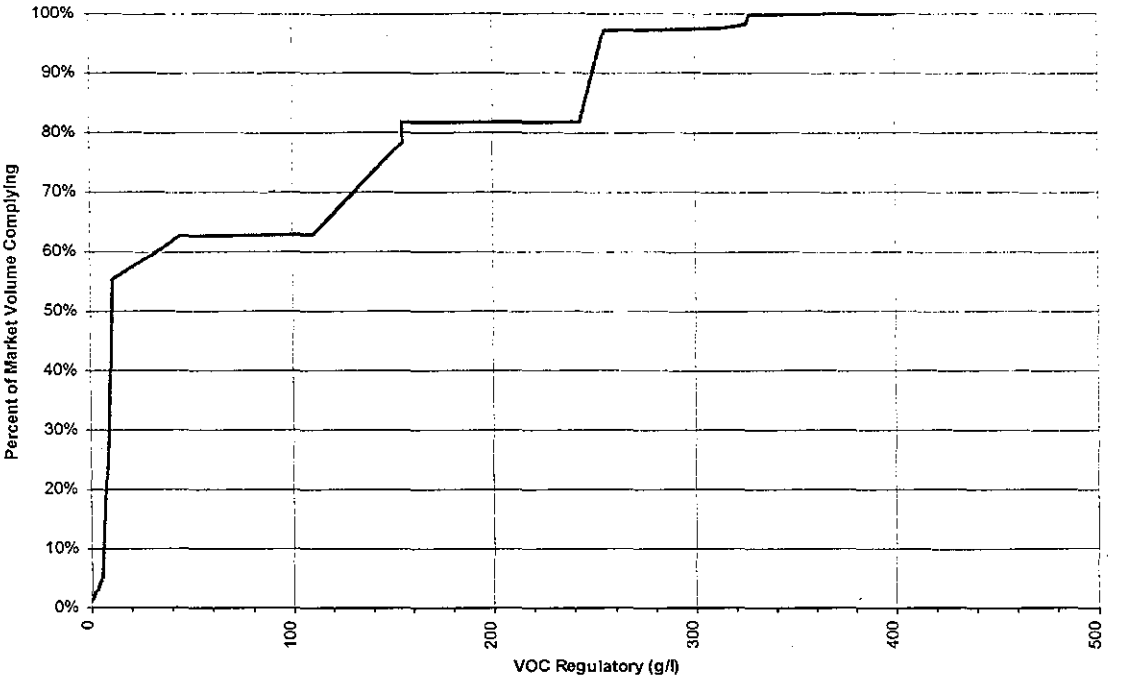


Figure 5-22
Fire Retardant - Opaque

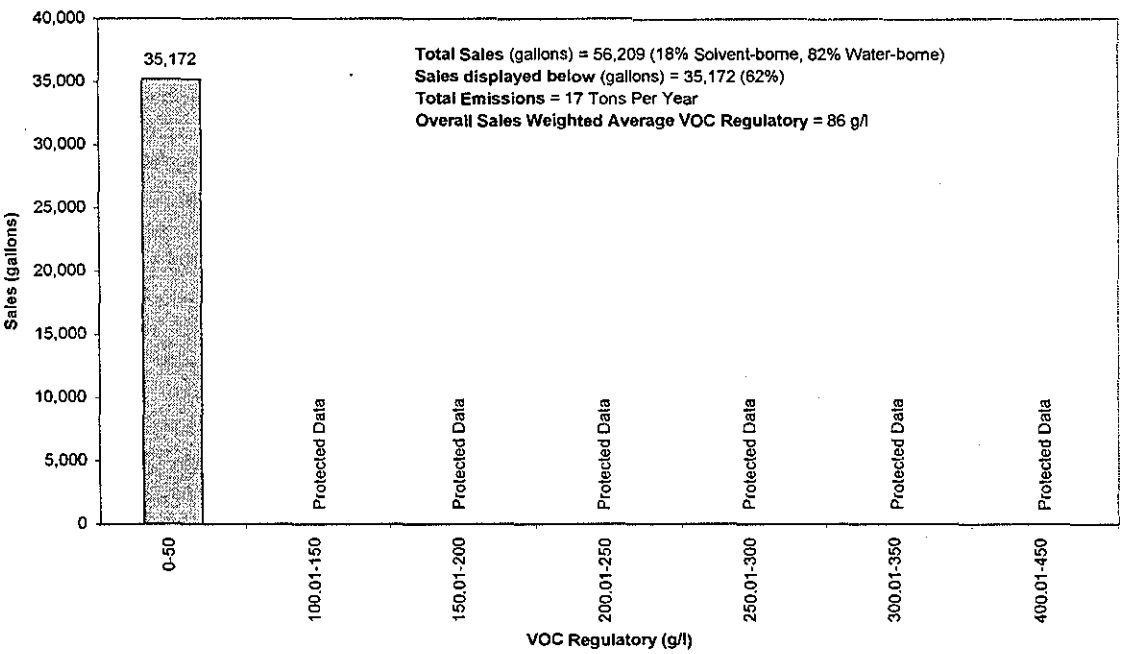


Figure 5-23
Flat

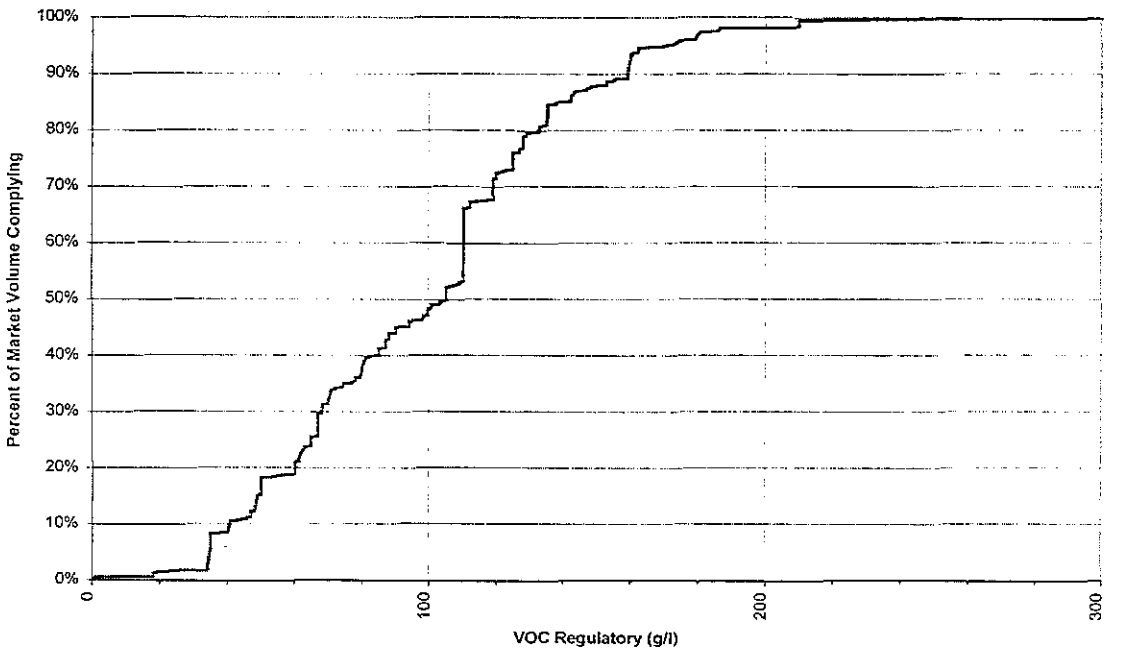


Figure 5-24
Flat

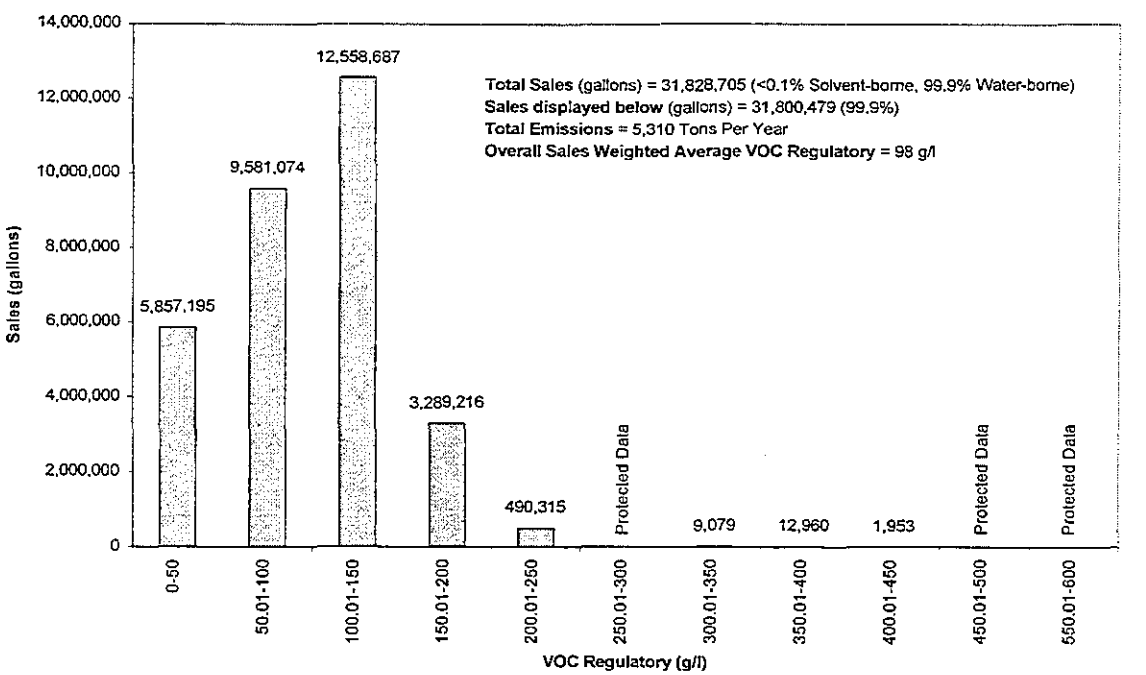


Figure 5-25
Floor

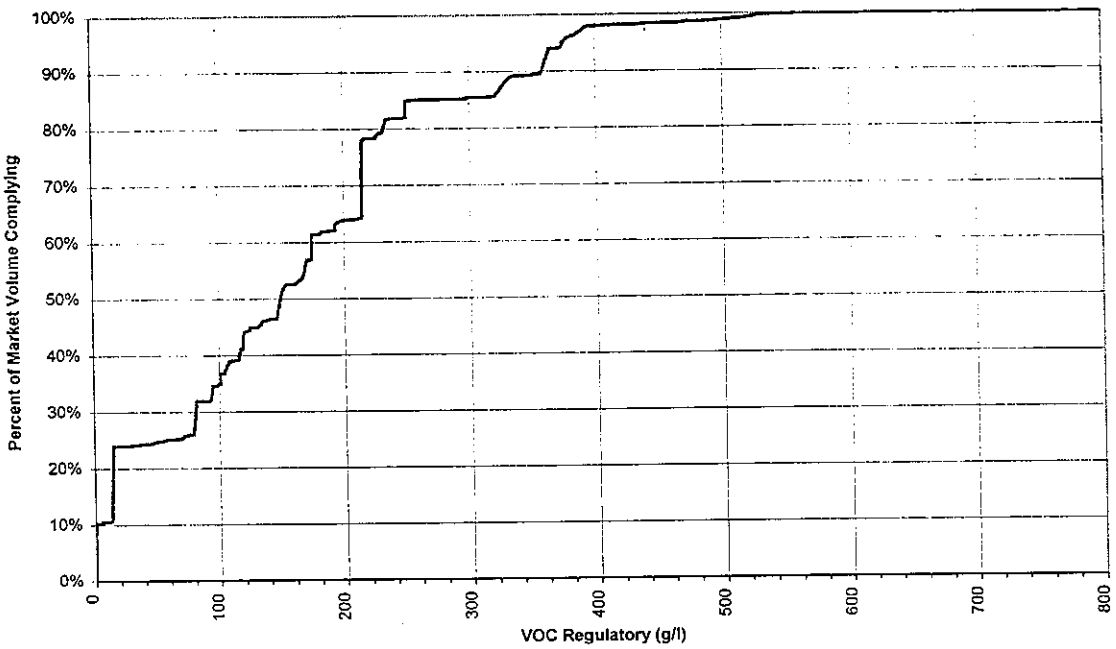


Figure 5-26
Floor

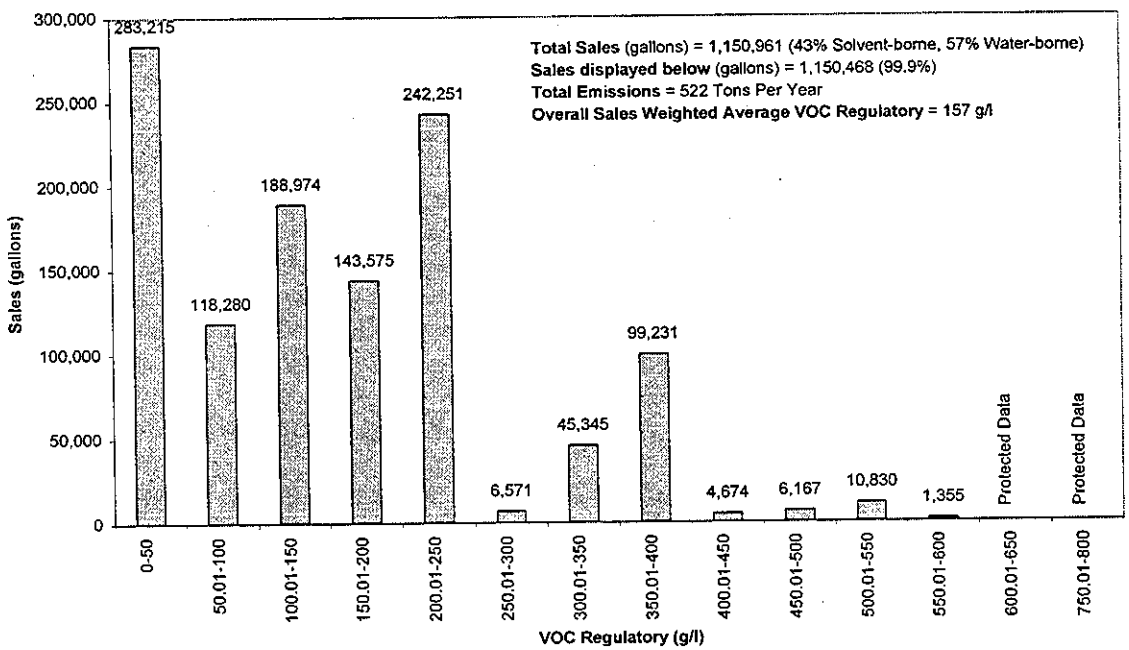


Figure 5-27
Flow

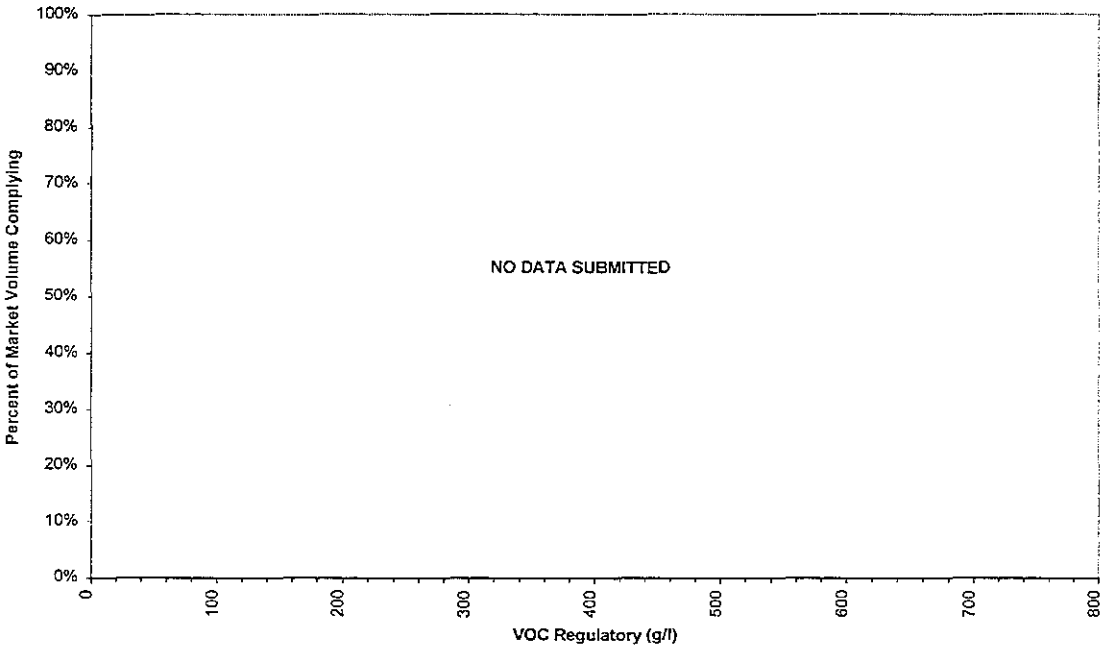


Figure 5-28
Flow

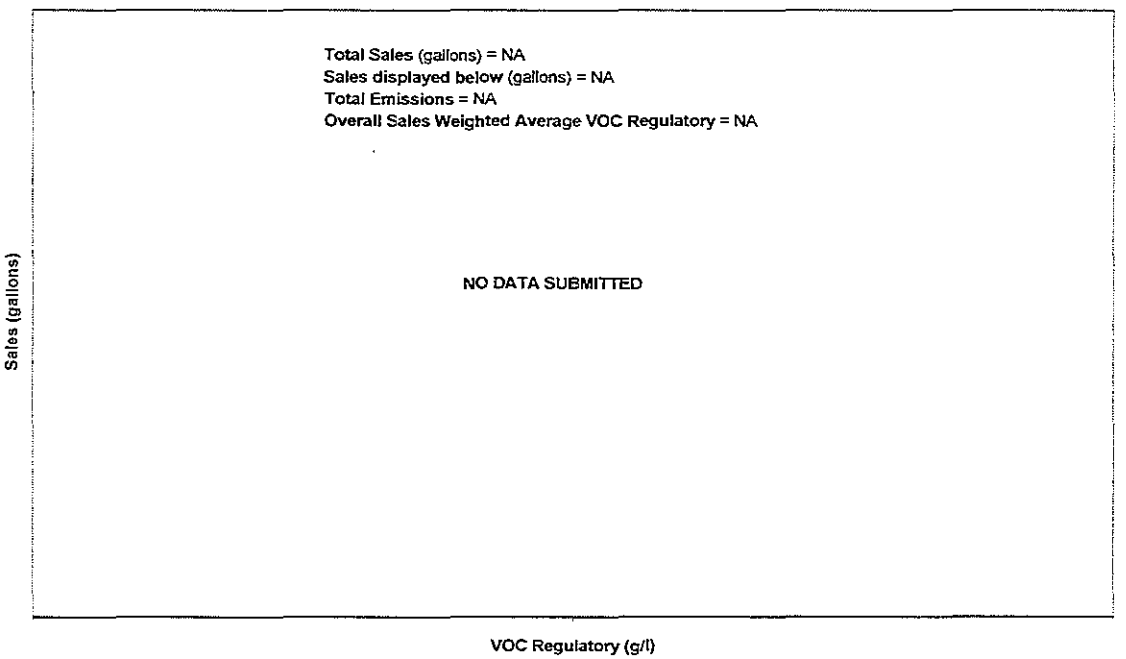


Figure 5-29
Form Release Compound

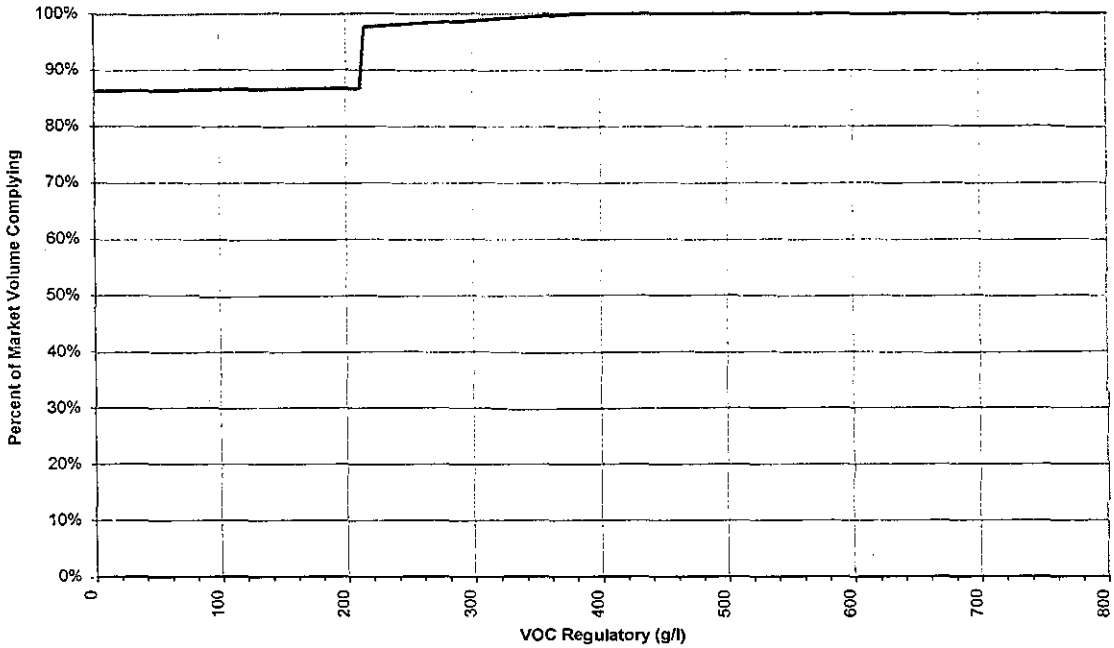


Figure 5-30
Form Release Compund

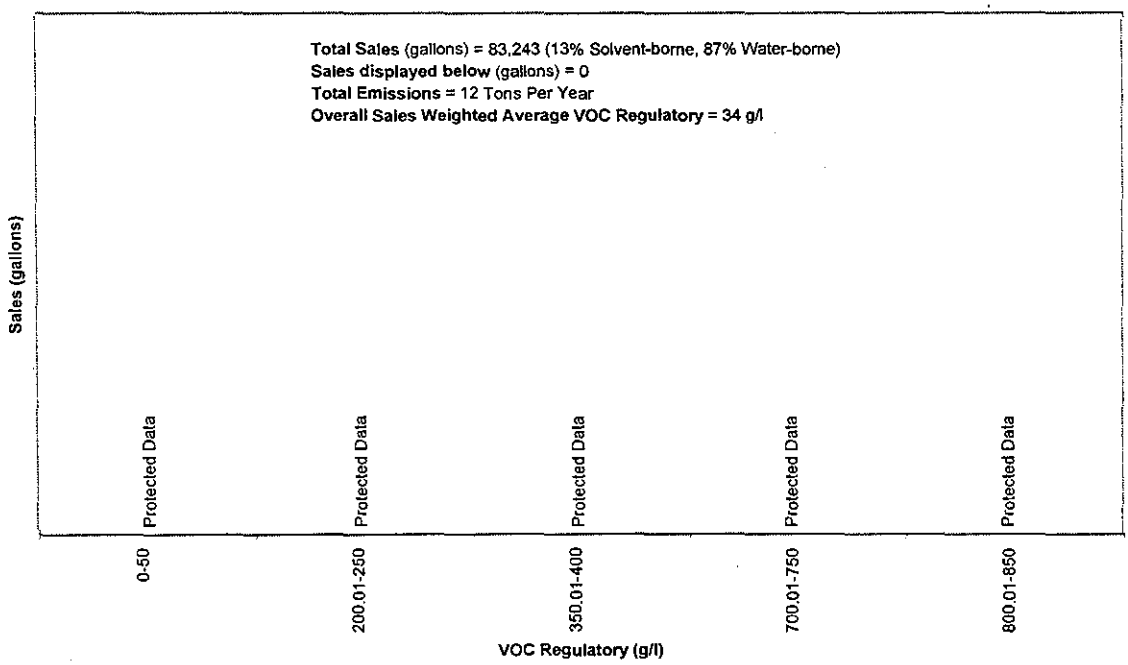


Figure 5-31
Graphic Art

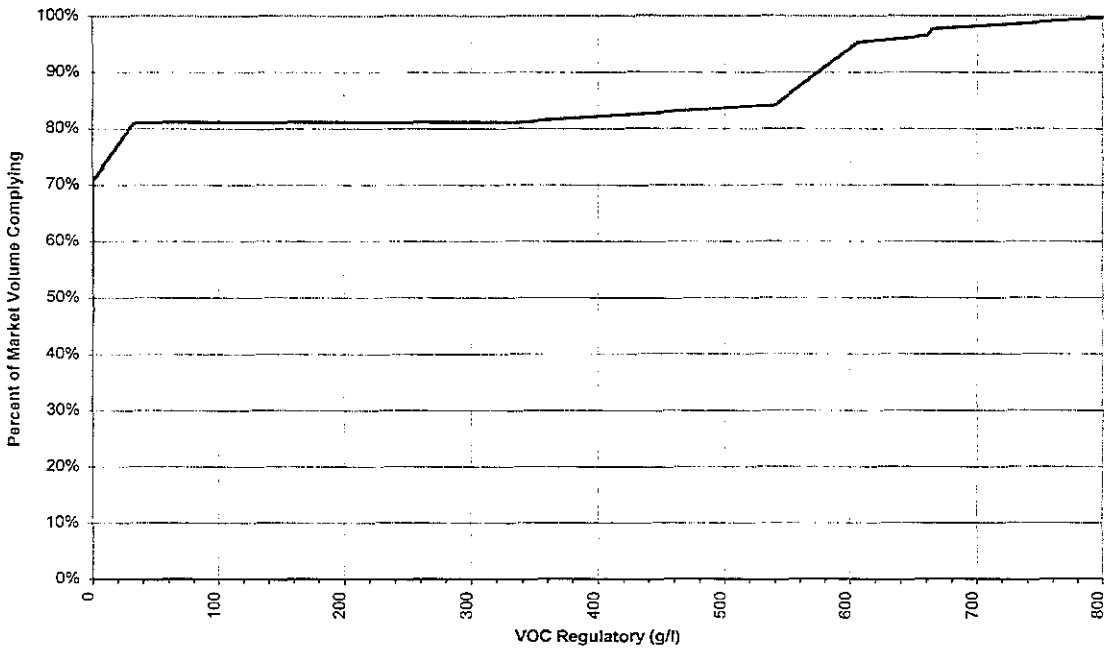


Figure 5-32
Graphic Art

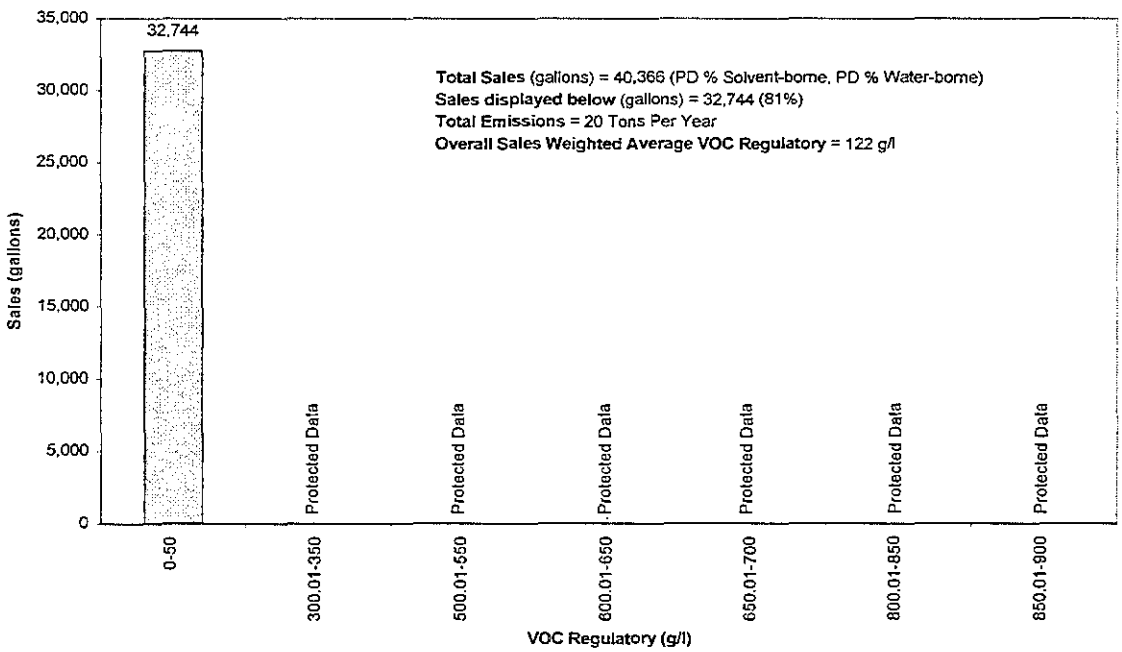


Figure 5-33
Heat Reactive

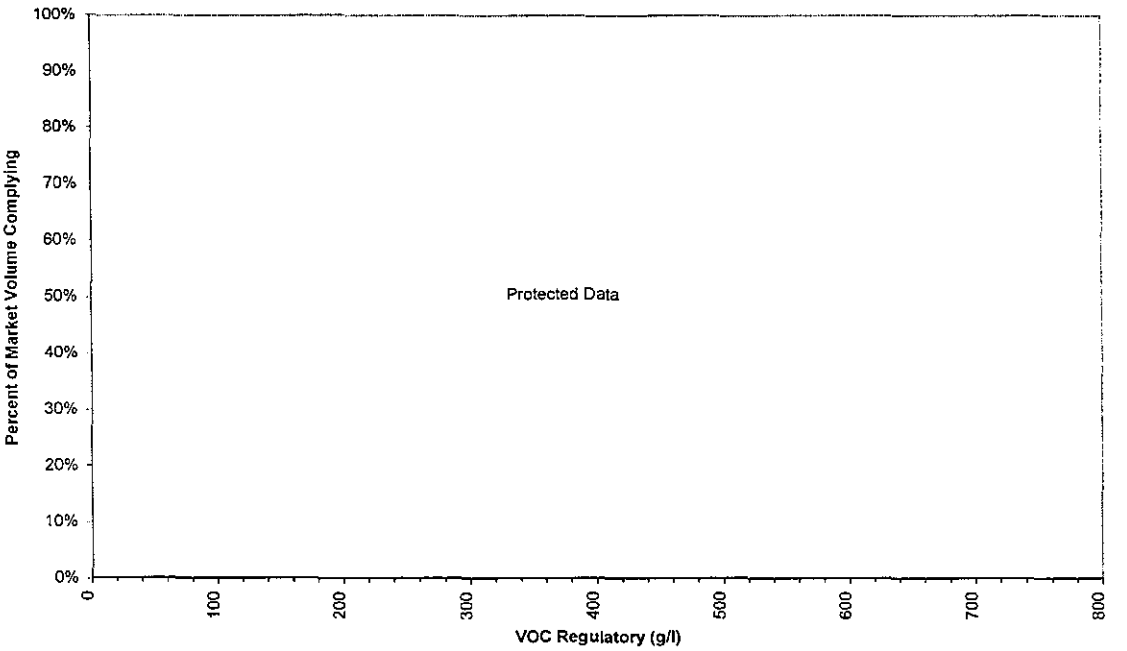


Figure 5-34
Heat Reactive

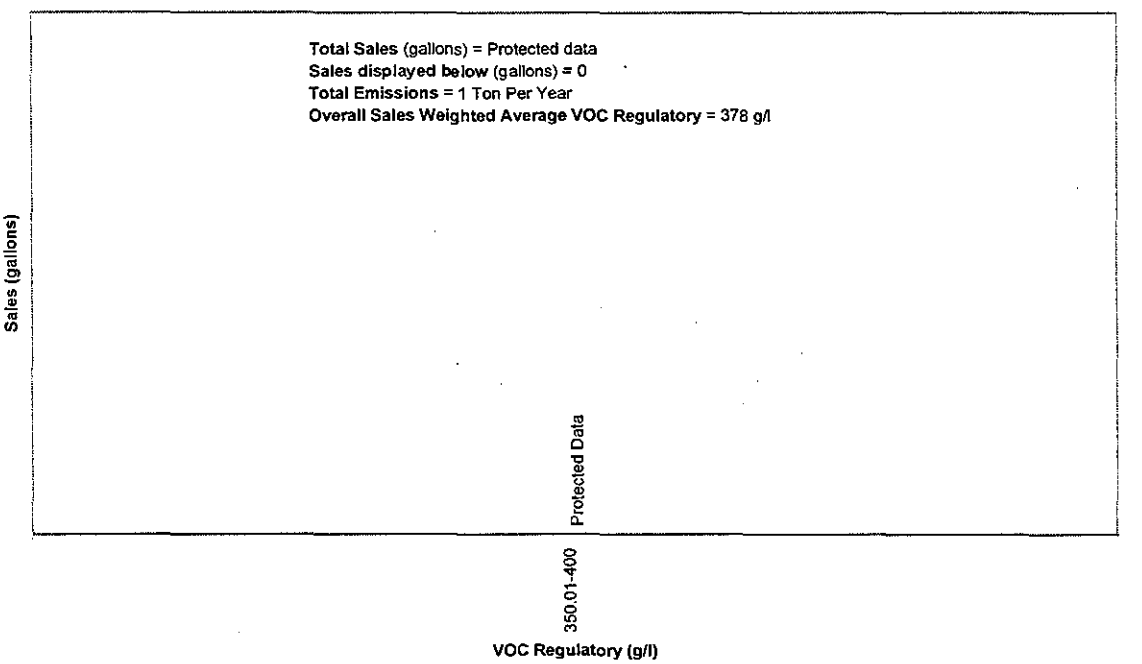


Figure 5-35
High Temperature

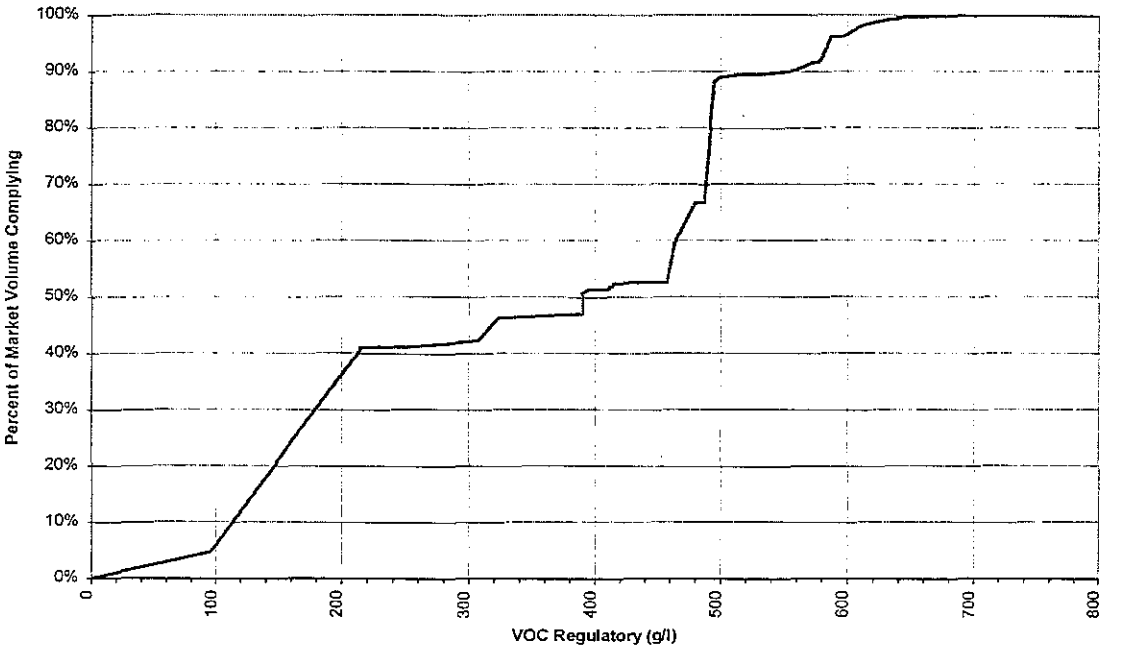


Figure 5-36
High Temperature

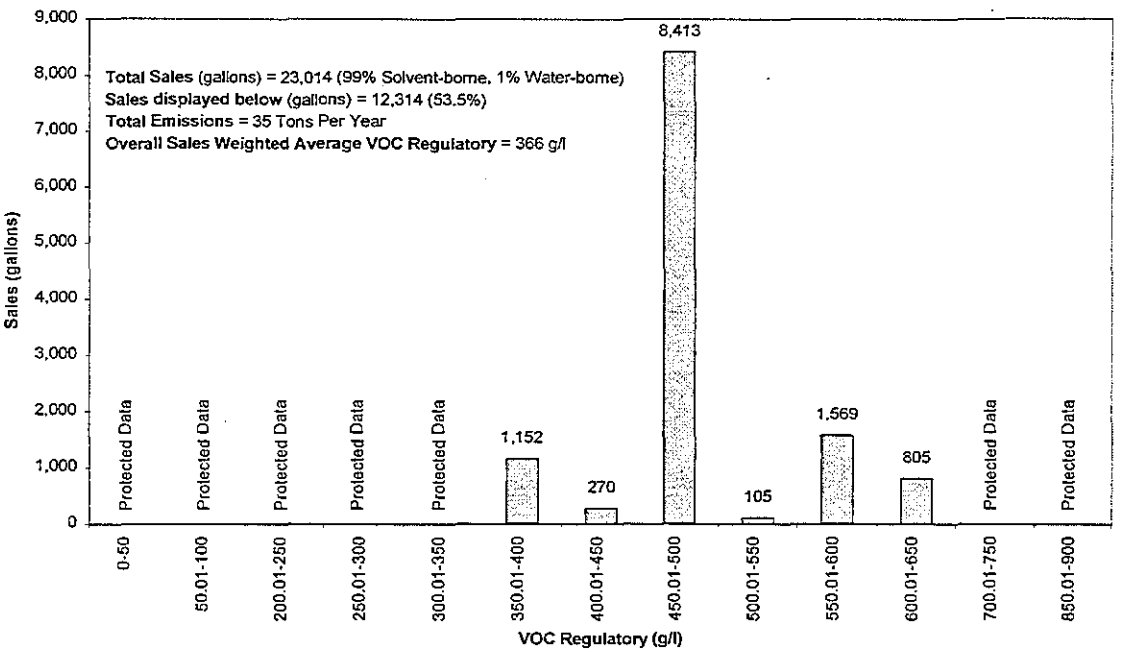


Figure 5-37
Industrial Maintenance

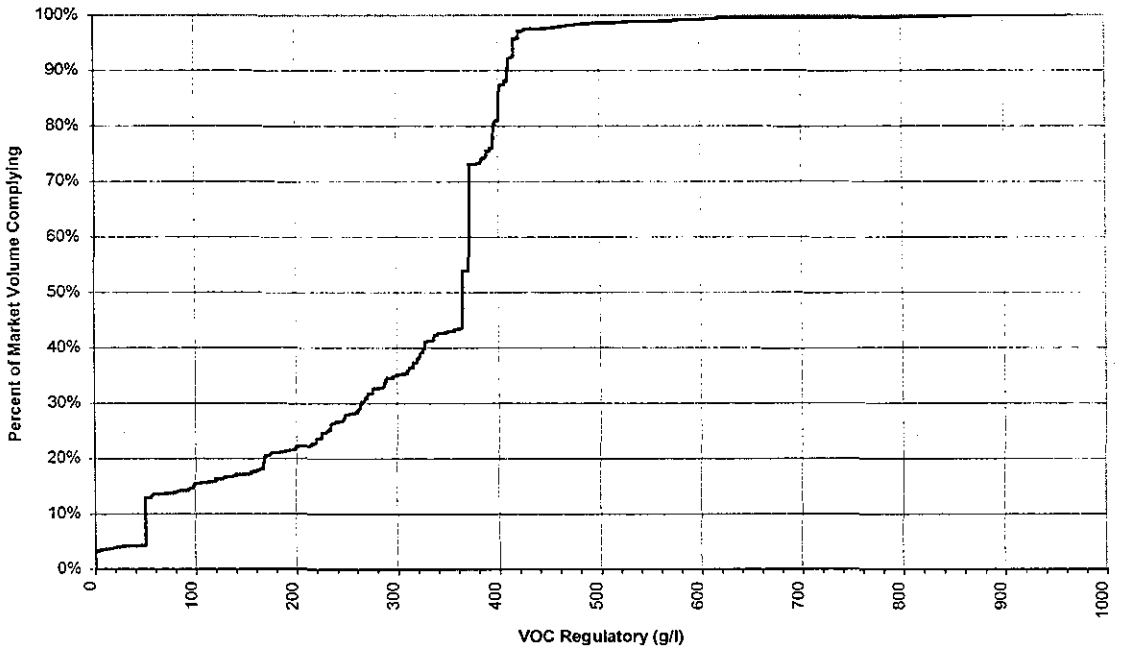


Figure 5-38
Industrial Maintenance

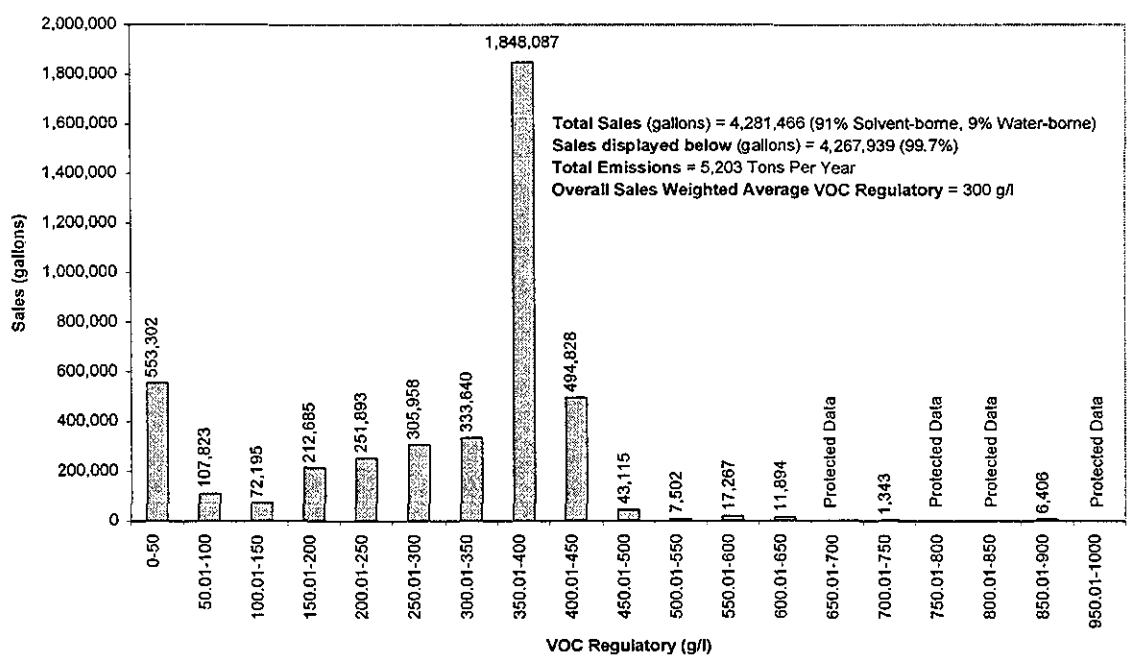


Figure 5-39
Lacquer - Clear

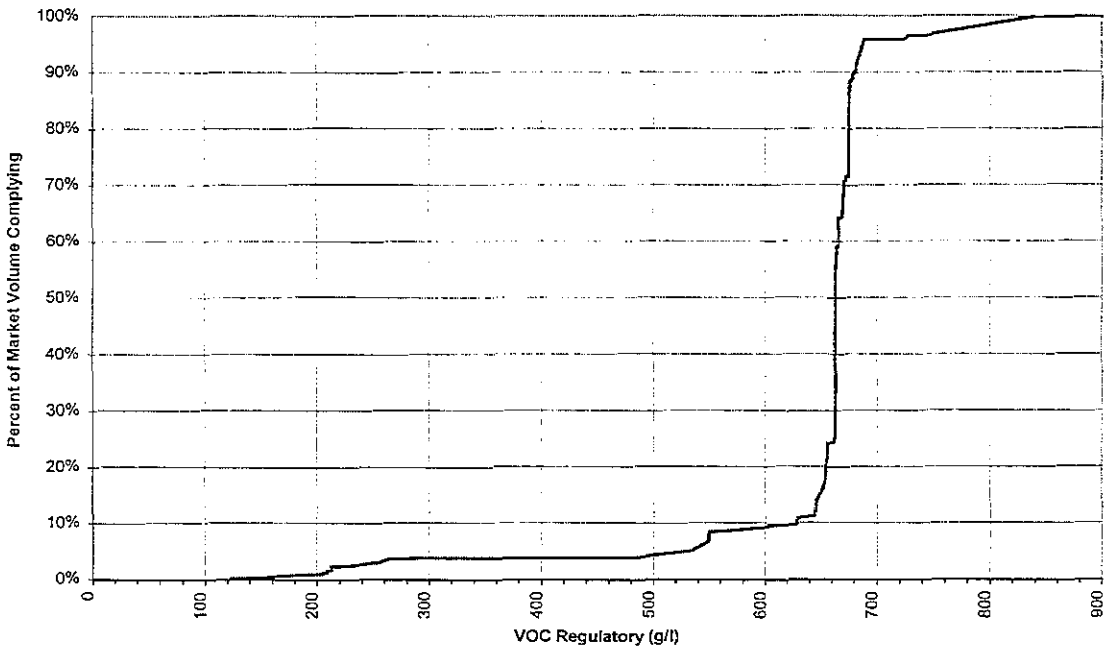


Figure 5-40
Lacquer - Clear

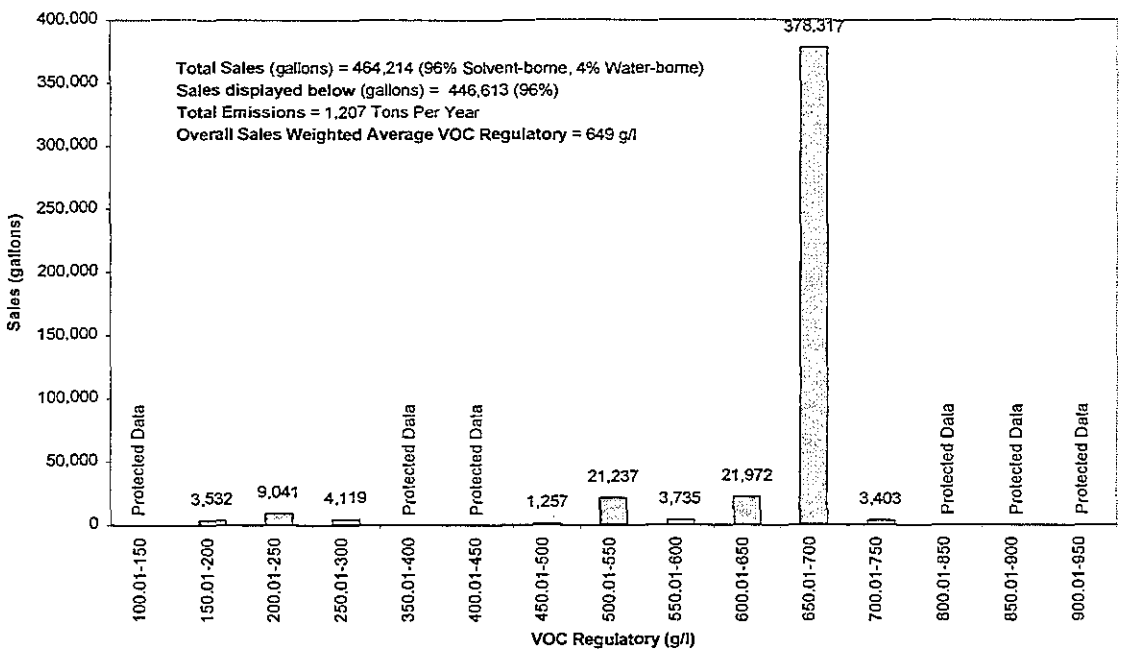


Figure 5-41
Lacquer - Opaque

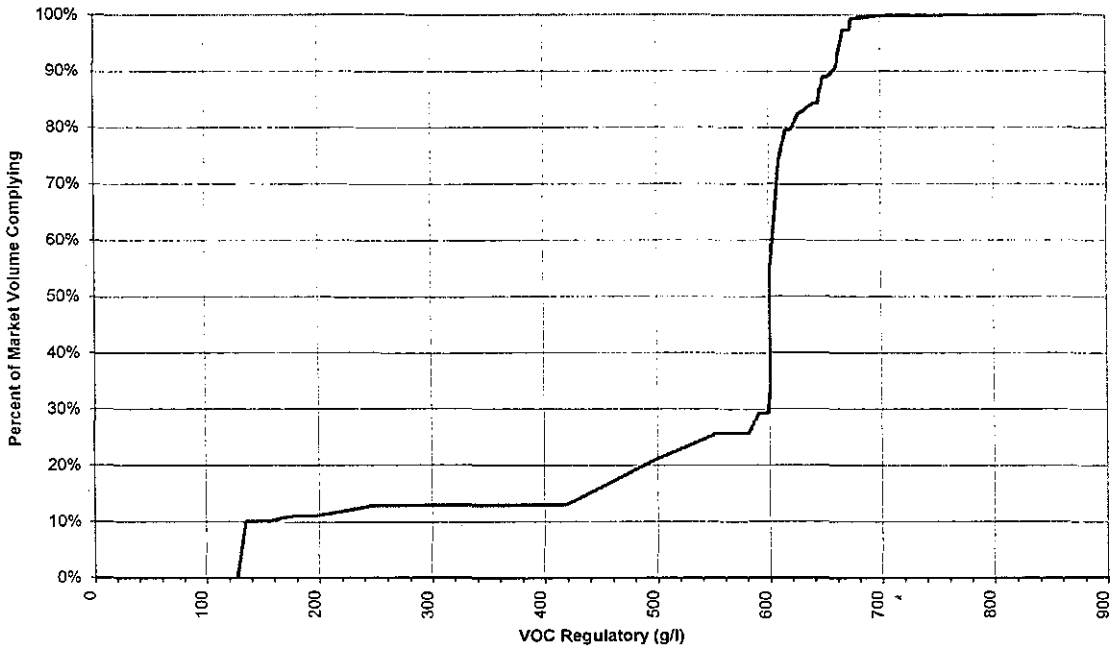


Figure 5-42
Lacquer - Opaque

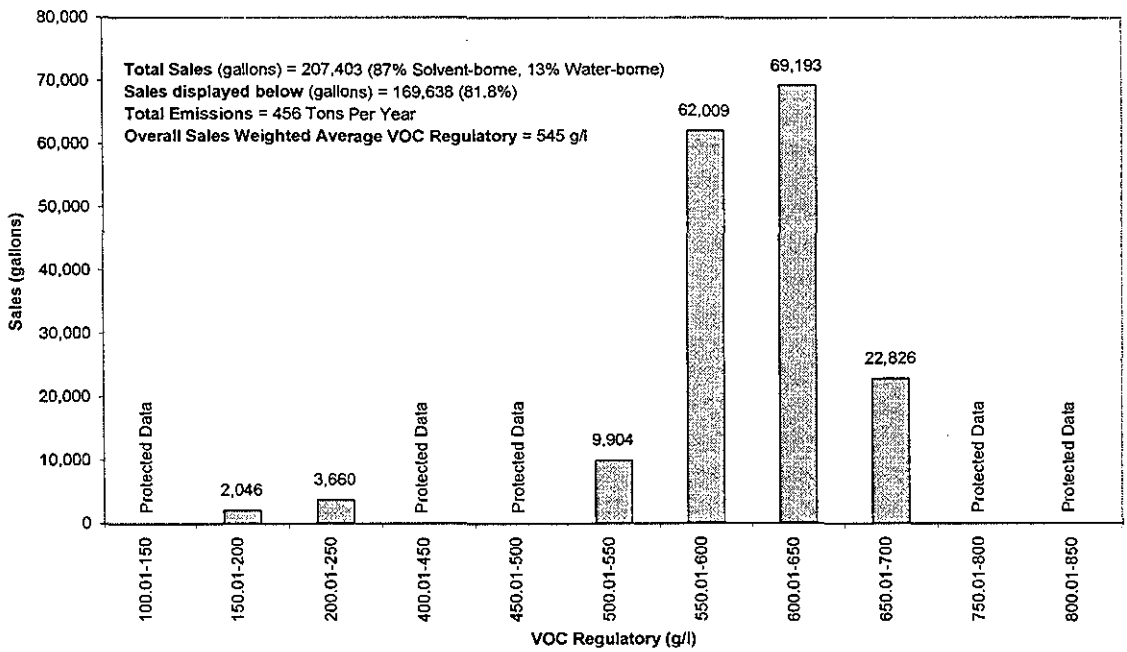


Figure 5-43
Magnesite Cement

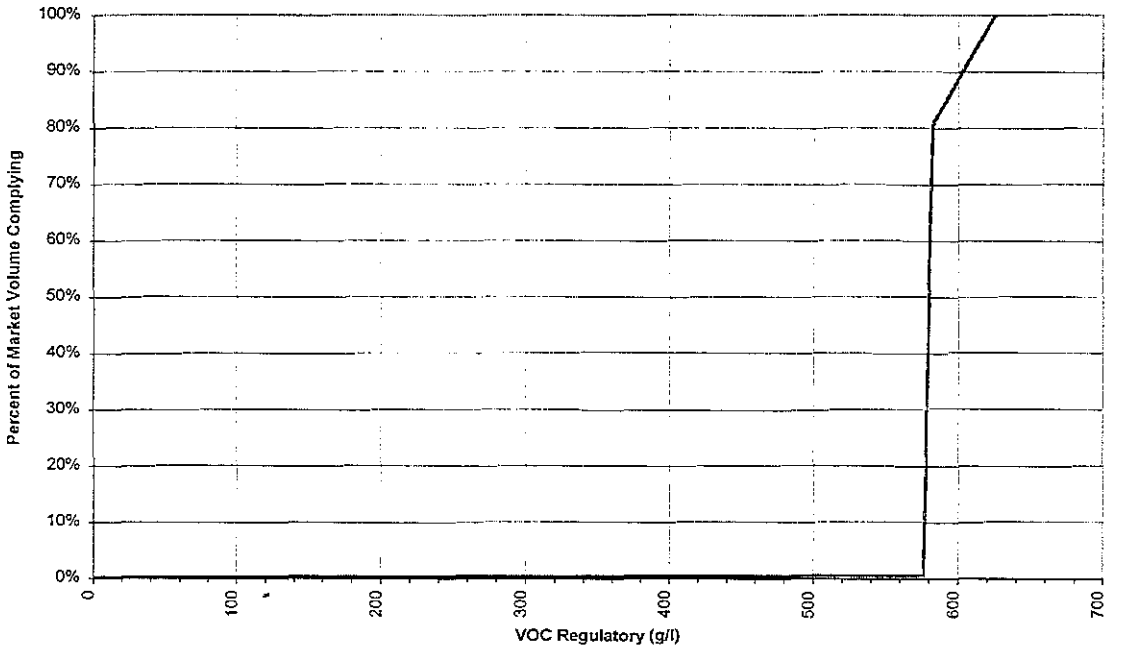


Figure 5-44
Magnesite Cement

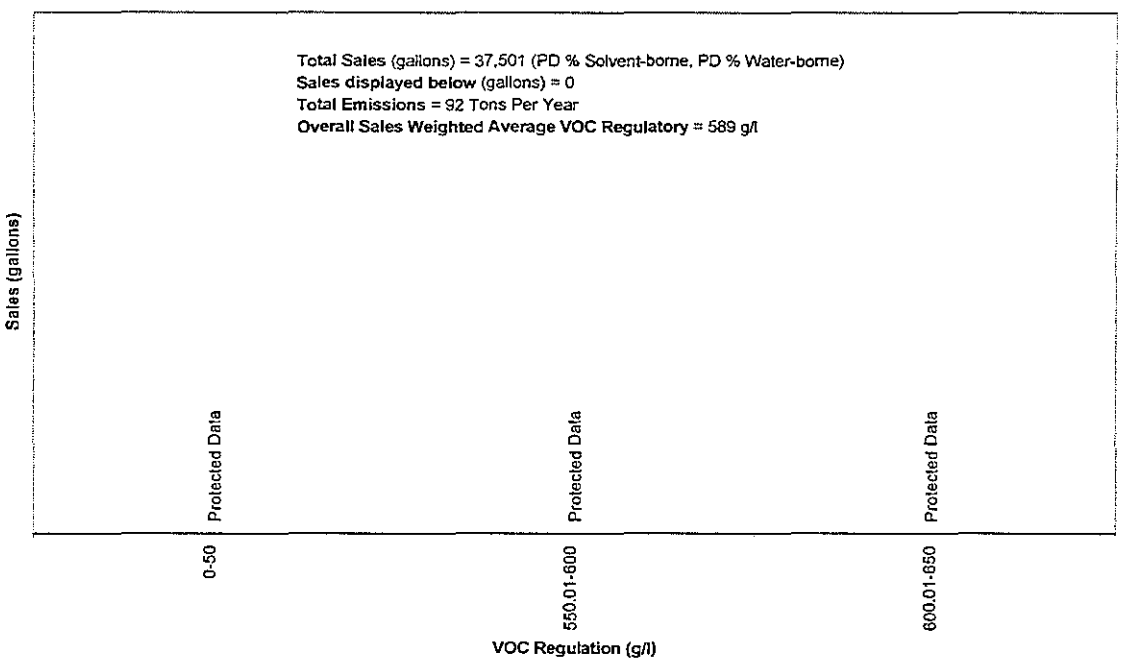


Figure 5-45
Mastic Texture

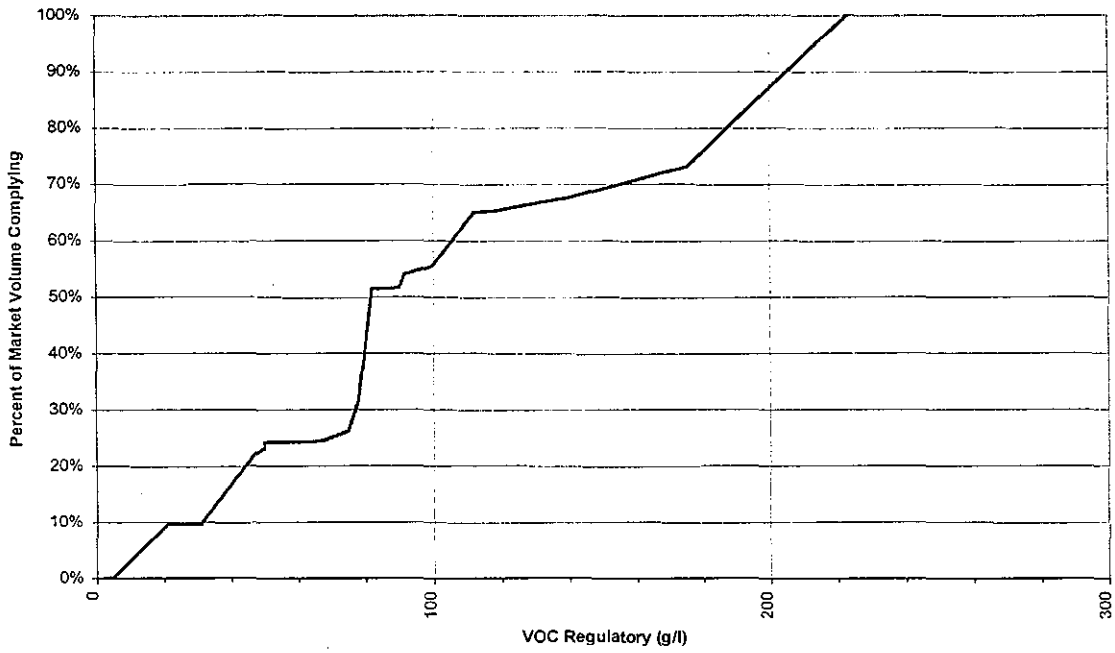


Figure 5-46
Mastic Texture

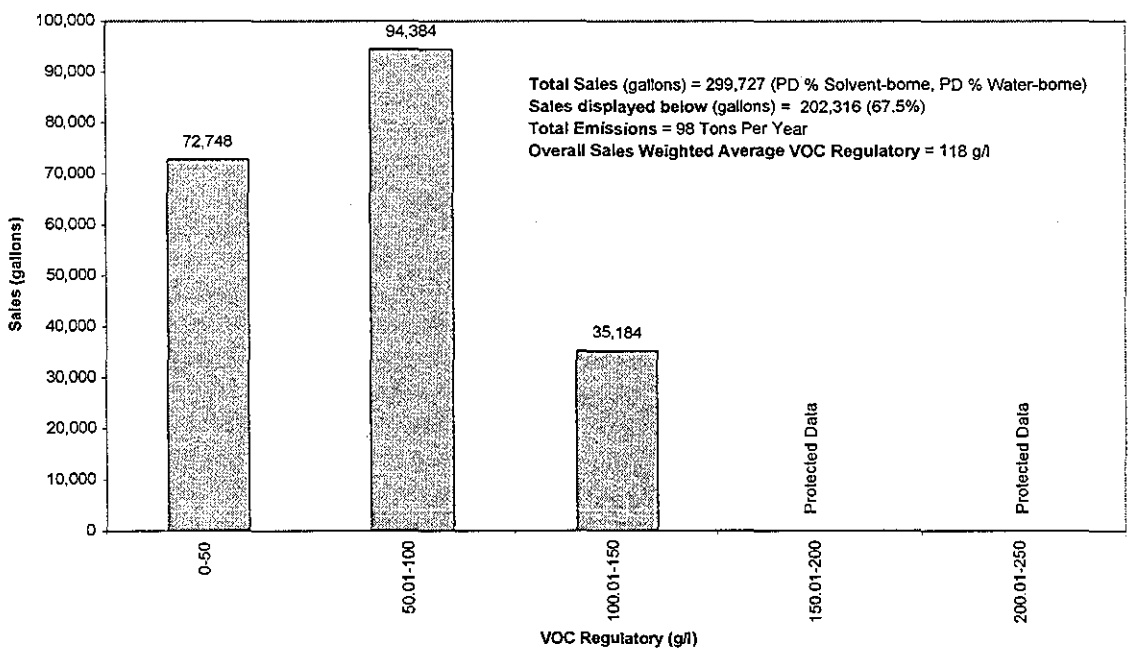


Figure 5-47
Metallic Pigmented

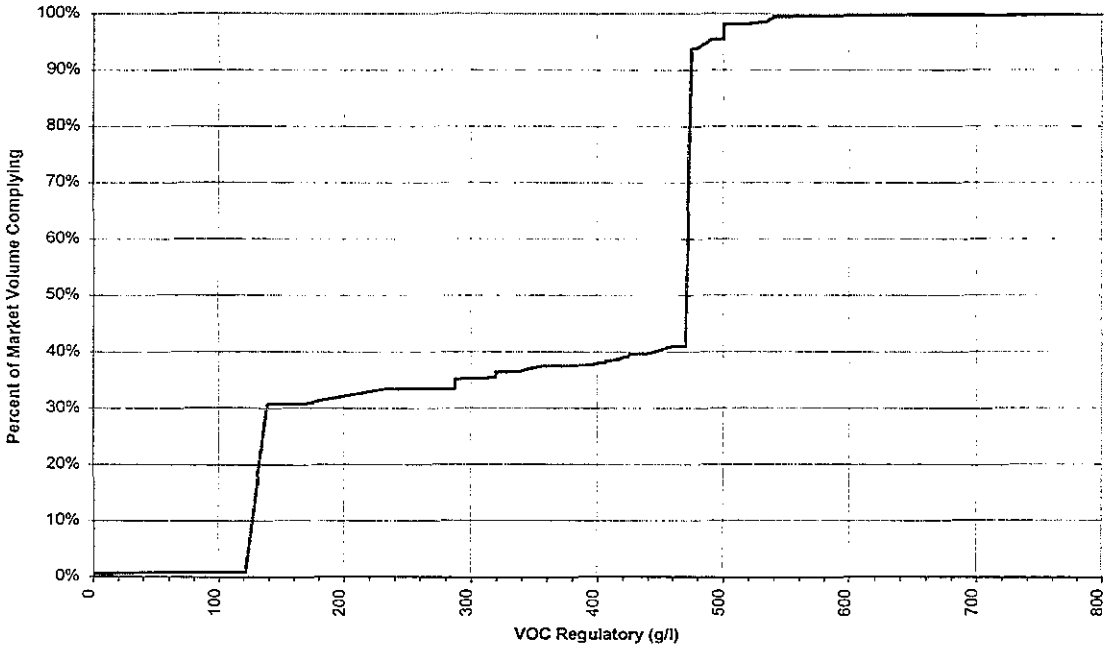


Figure 5-48
Metallic Pigmented

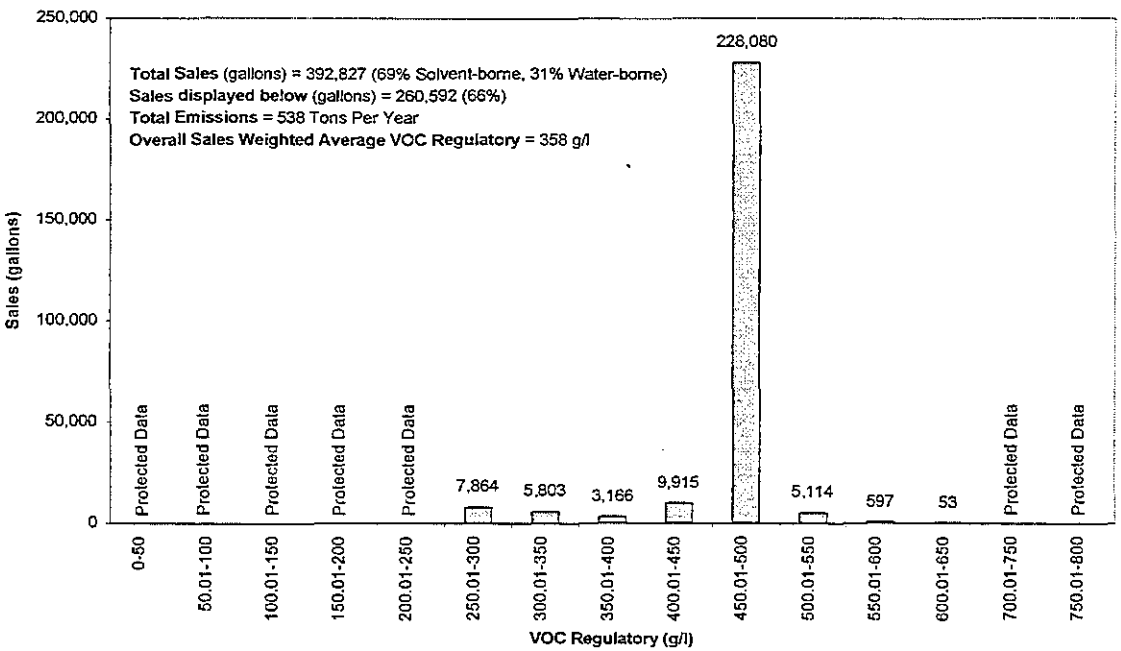


Figure 5-49
Muti-Color

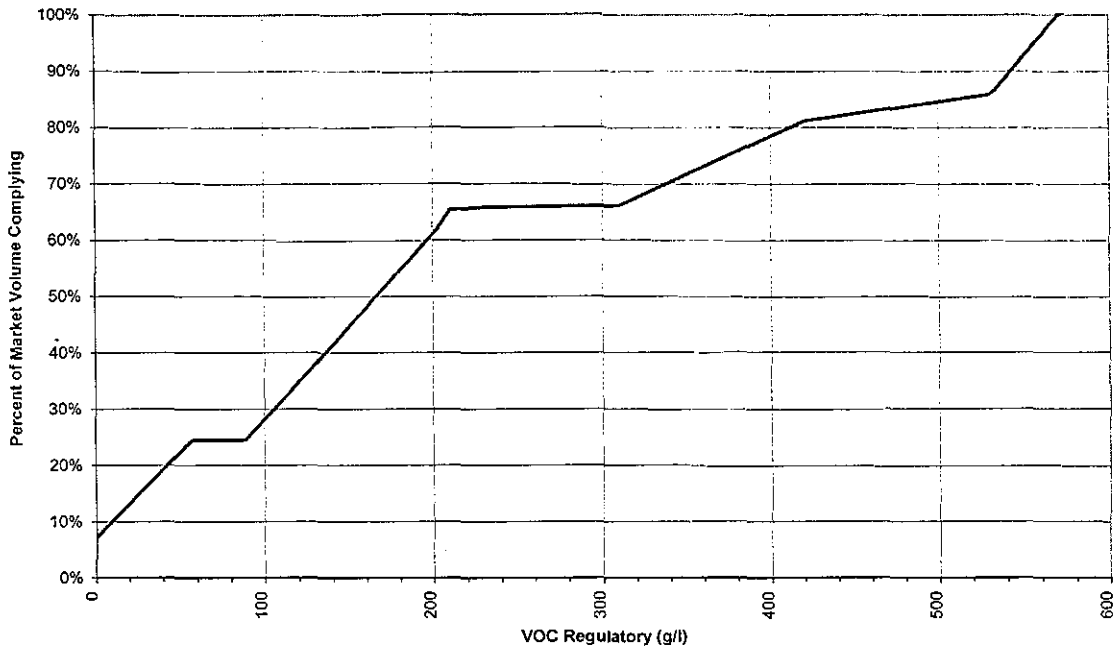


Figure 5-50
Multi-Color

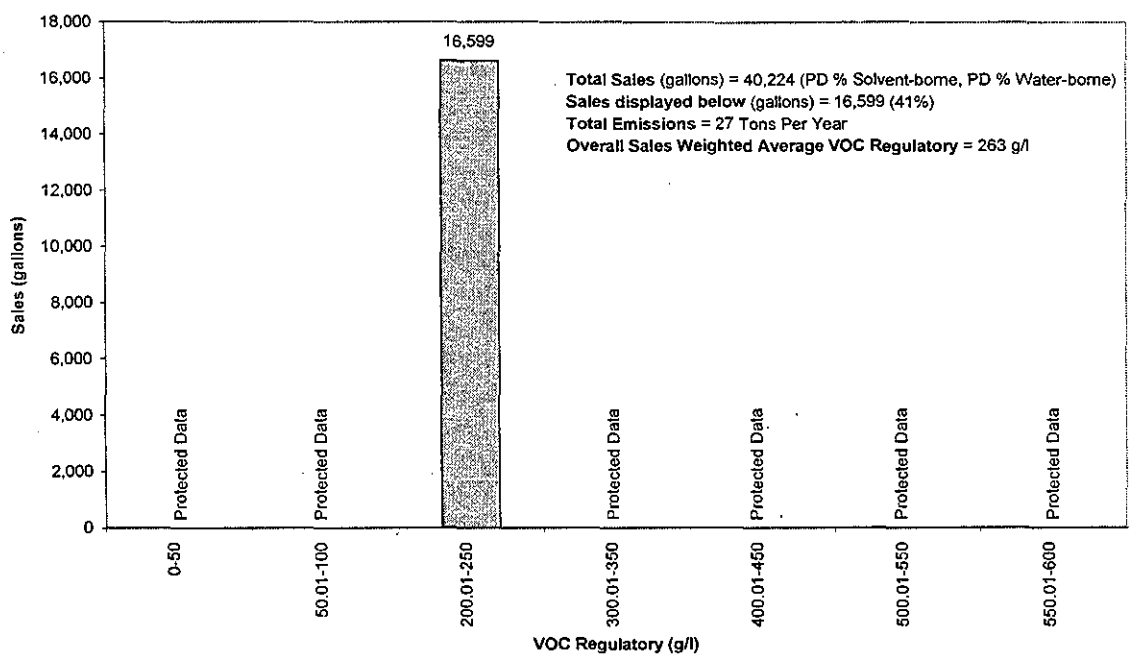


Figure 5-51
Nonflat - High Gloss

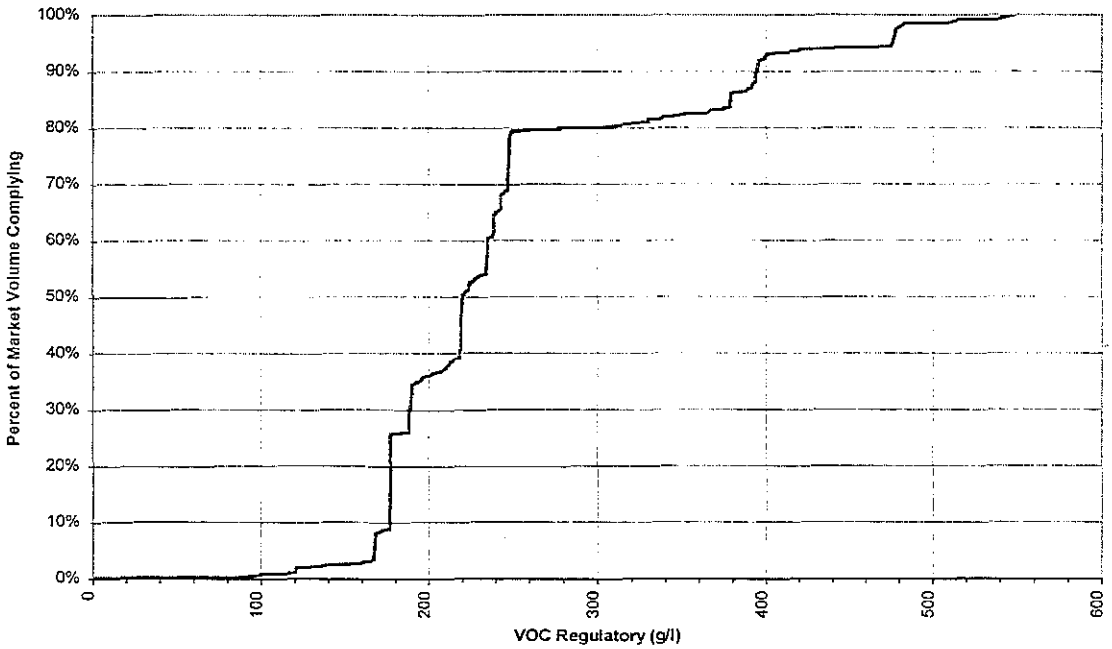


Figure 5-52
Nonflat - High Gloss

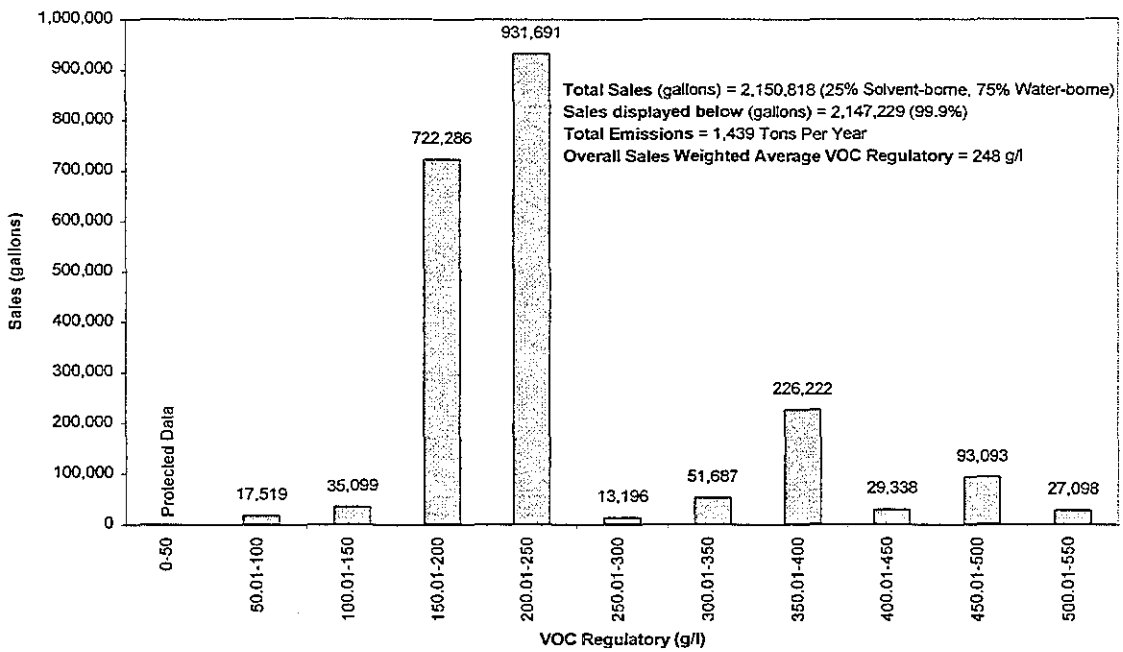


Figure 5-53
Nonflat - Medium Gloss

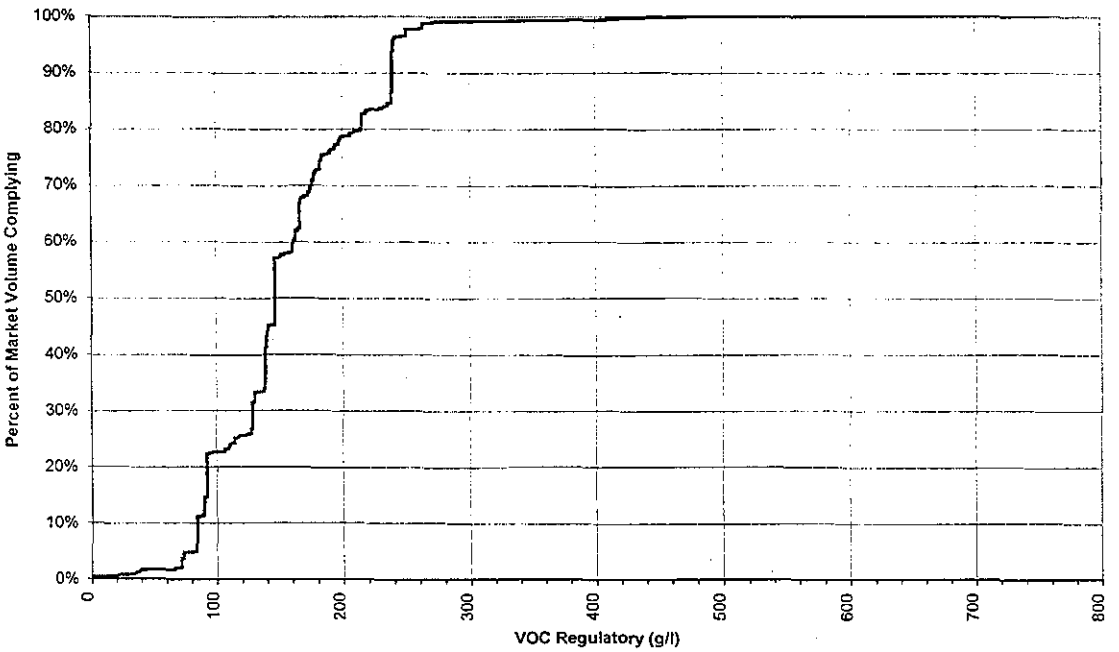


Figure 5-54
Nonflat - Medium Gloss

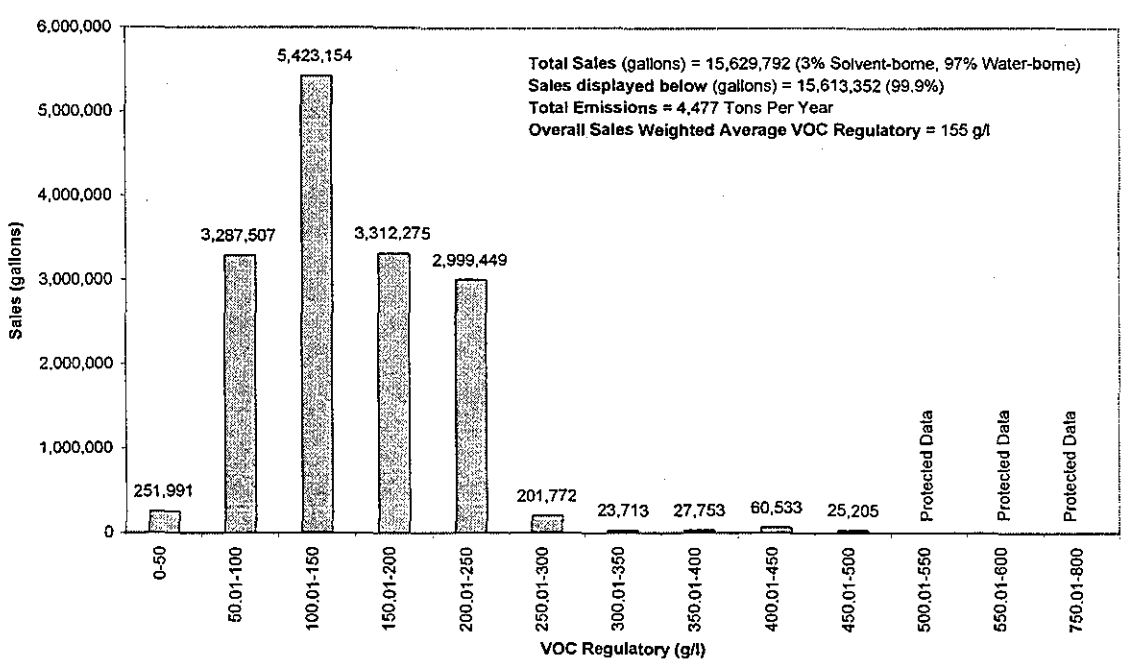


Figure 5-55
Nonflat - Low Gloss

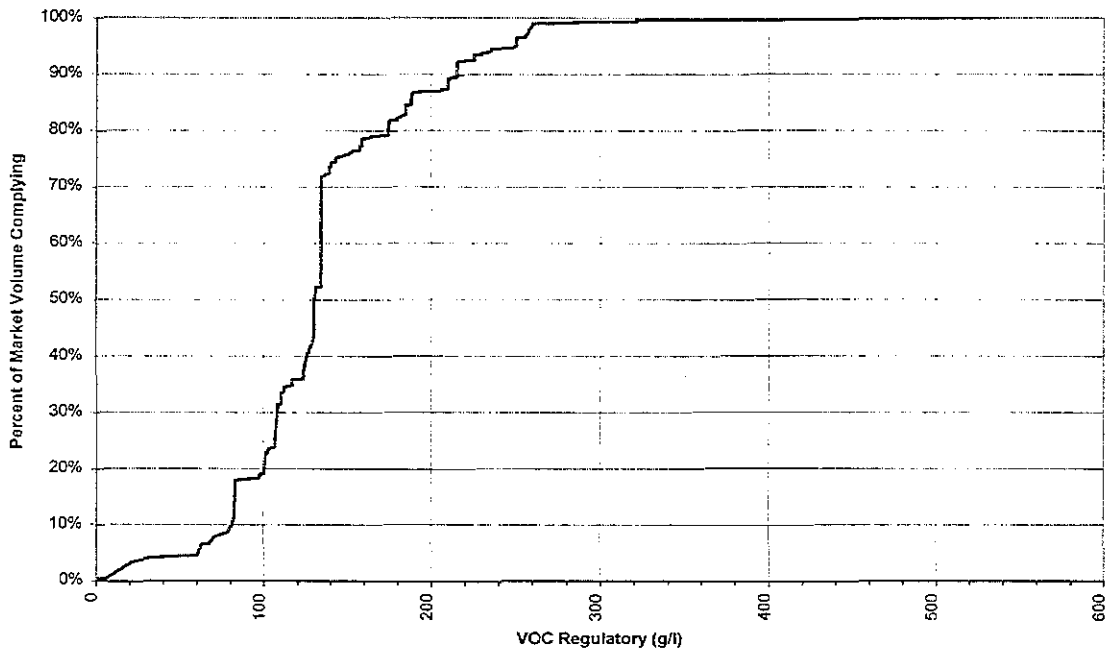


Figure 5-56
Nonflat - Low Gloss

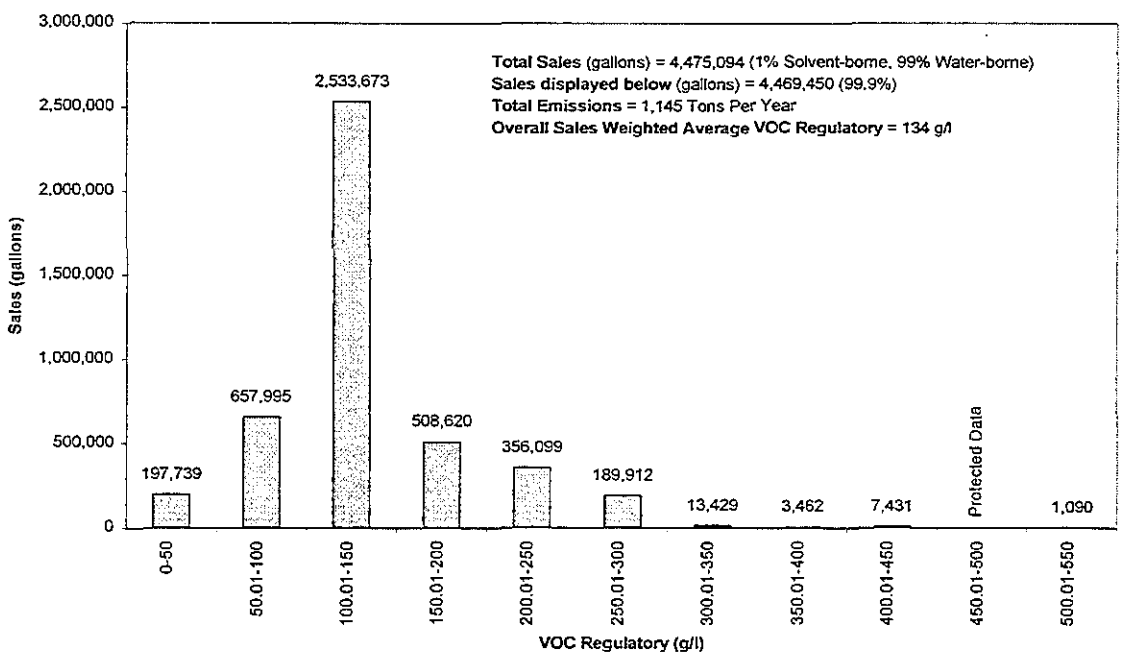


Figure 5-57
Nuclear

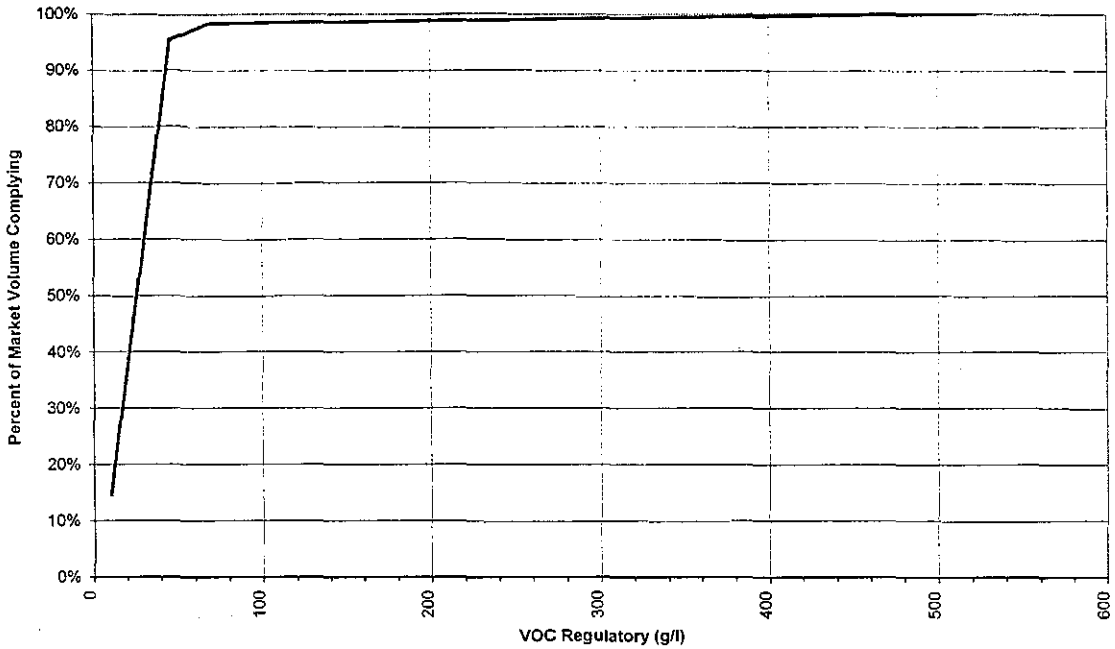


Figure 5-58
Nuclear

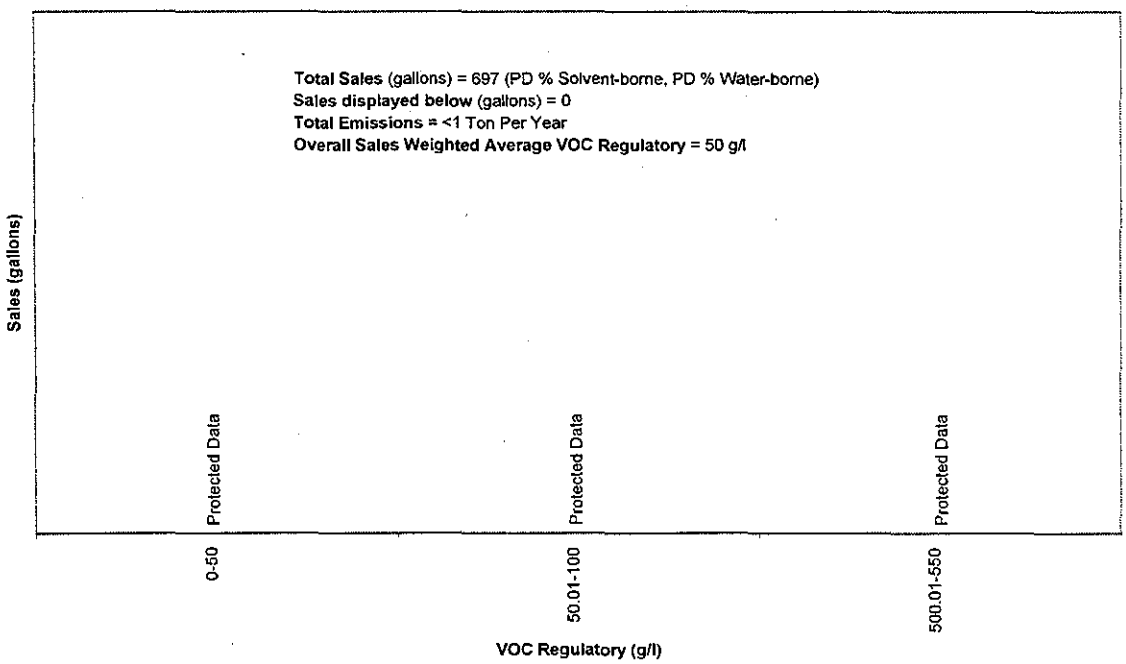


Figure 5-59
Pre-Treatment Wash Primer

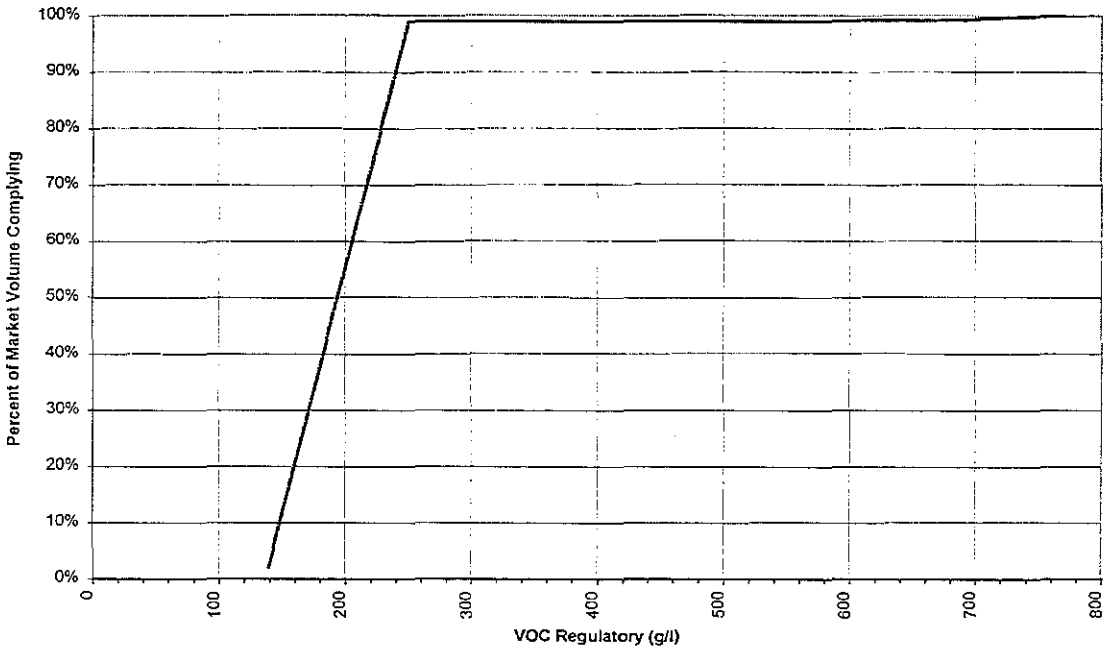


Figure 5-60
Pre-Treatment Wash Primer

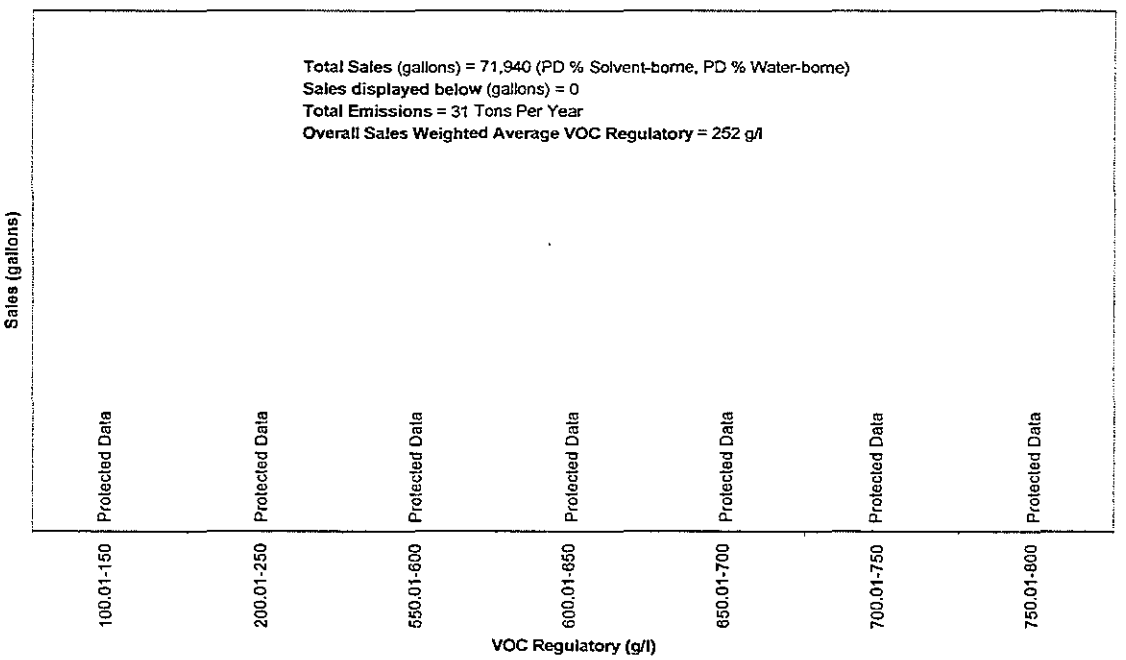


Figure 5-61
Primer, Sealer, Undercoater

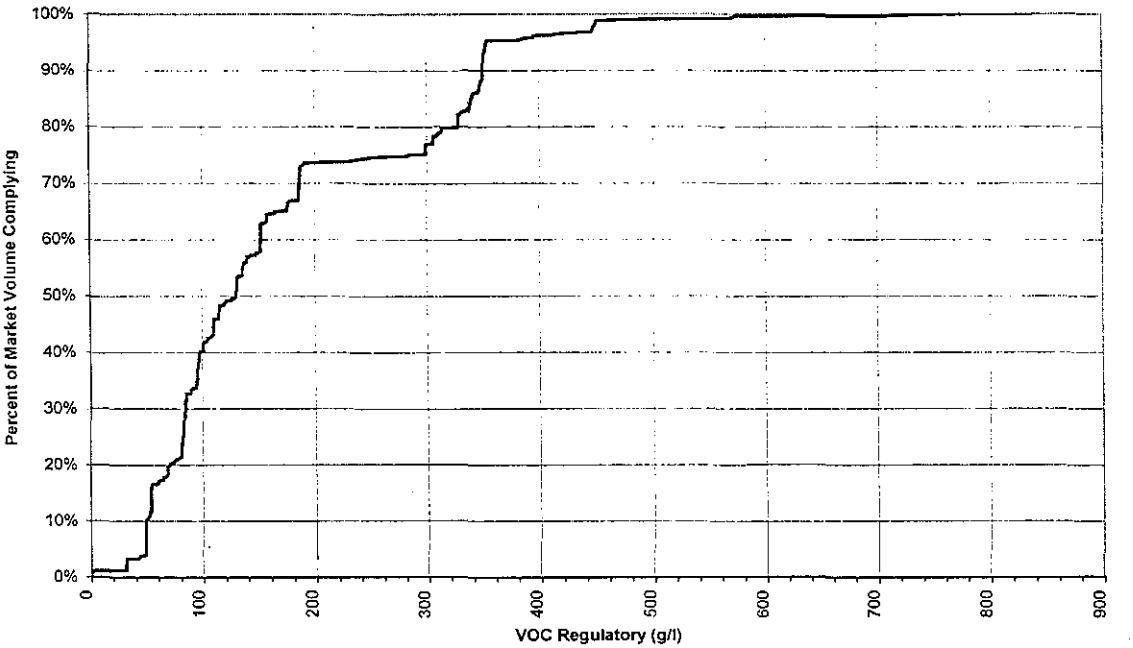


Figure 5-62
Primer, Sealer, & Undercoater

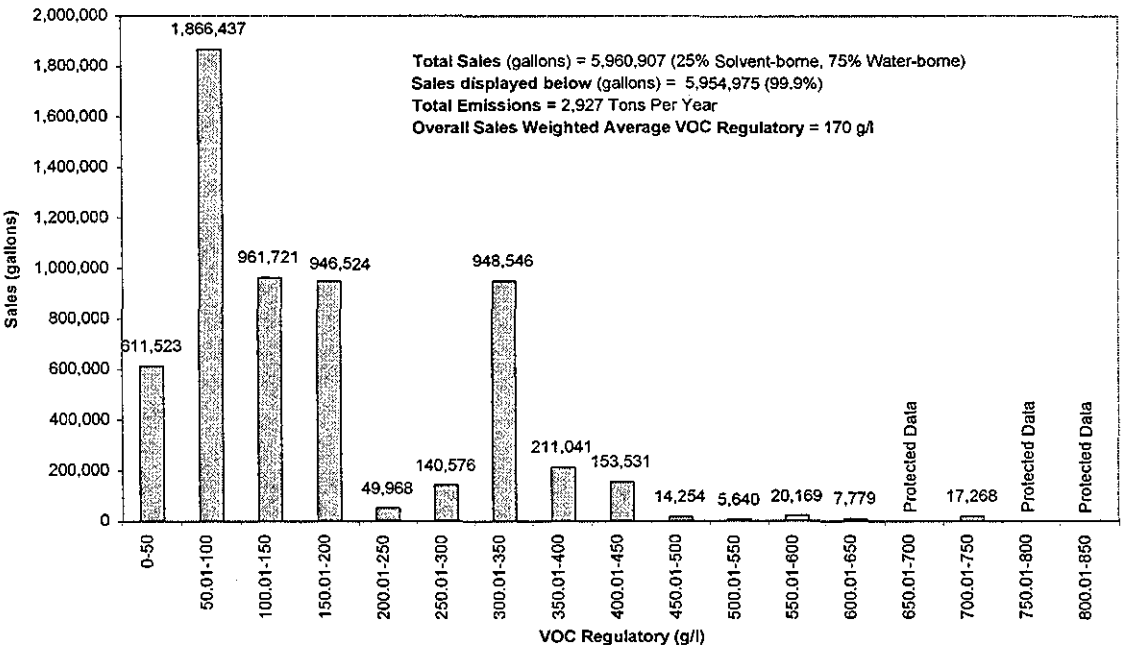


Figure 5-63
Quick Dry Enamel

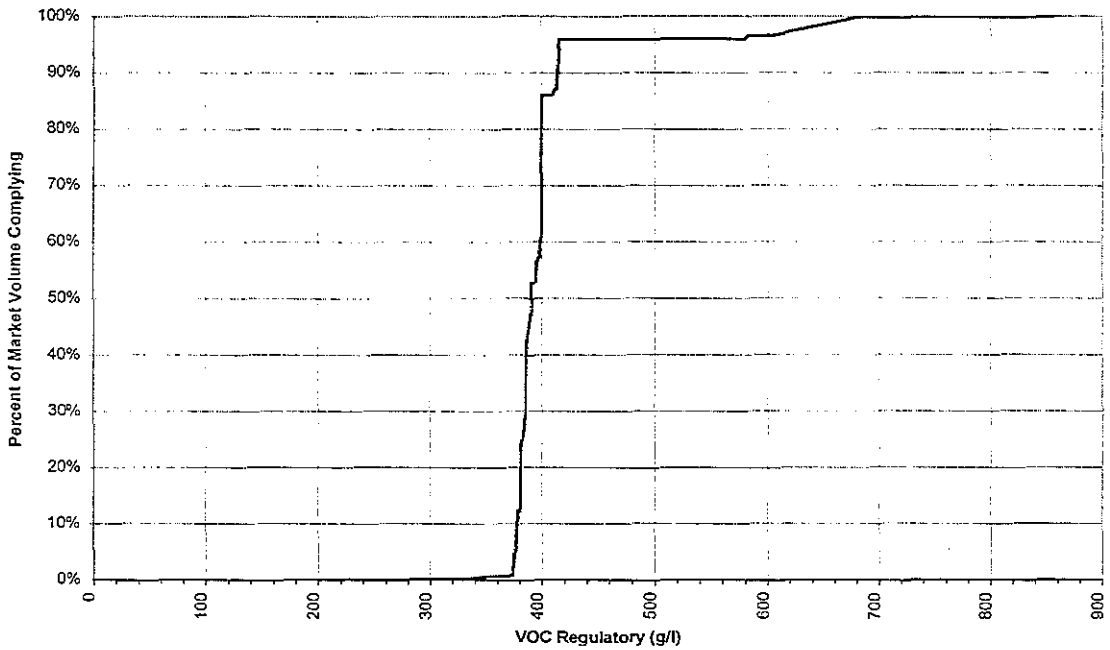


Figure 5-64
Quick Dry Enamel

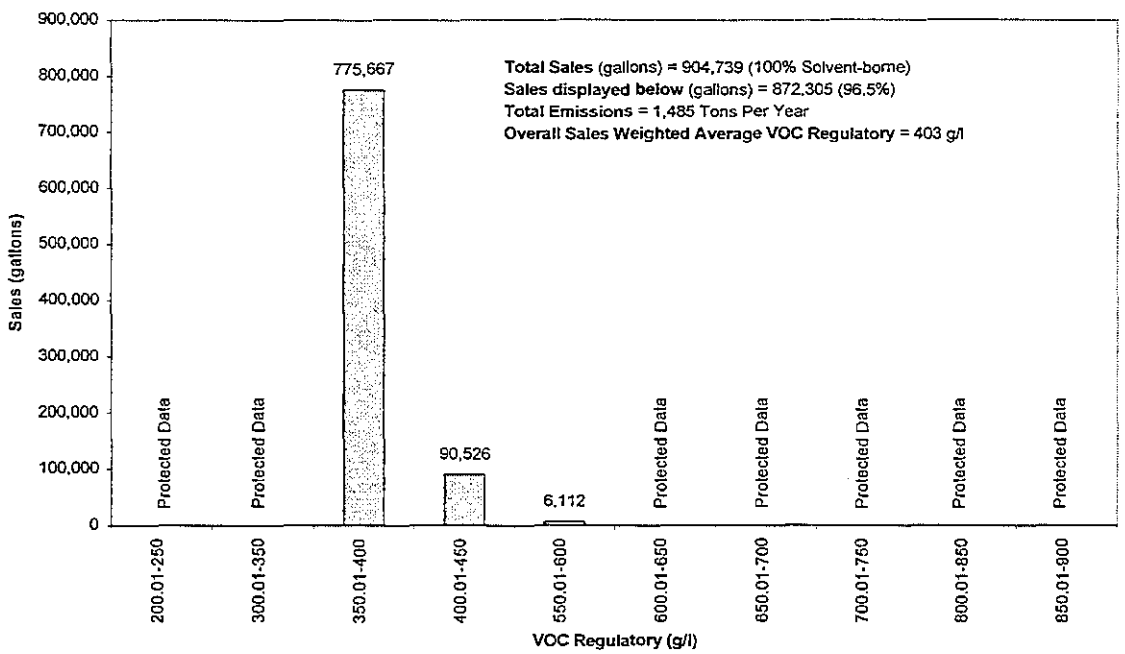


Figure 5-65
Quick Dry Primer, Sealer, Undercoater

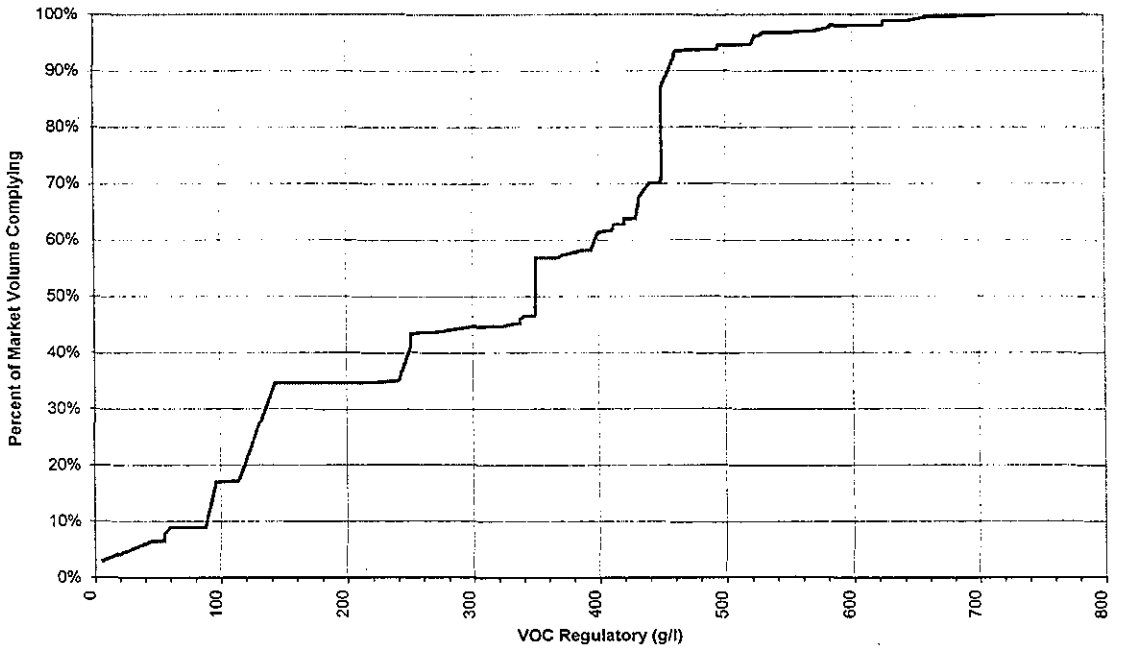


Figure 5-66
Quickdry Primer, Sealer, & Undercoater

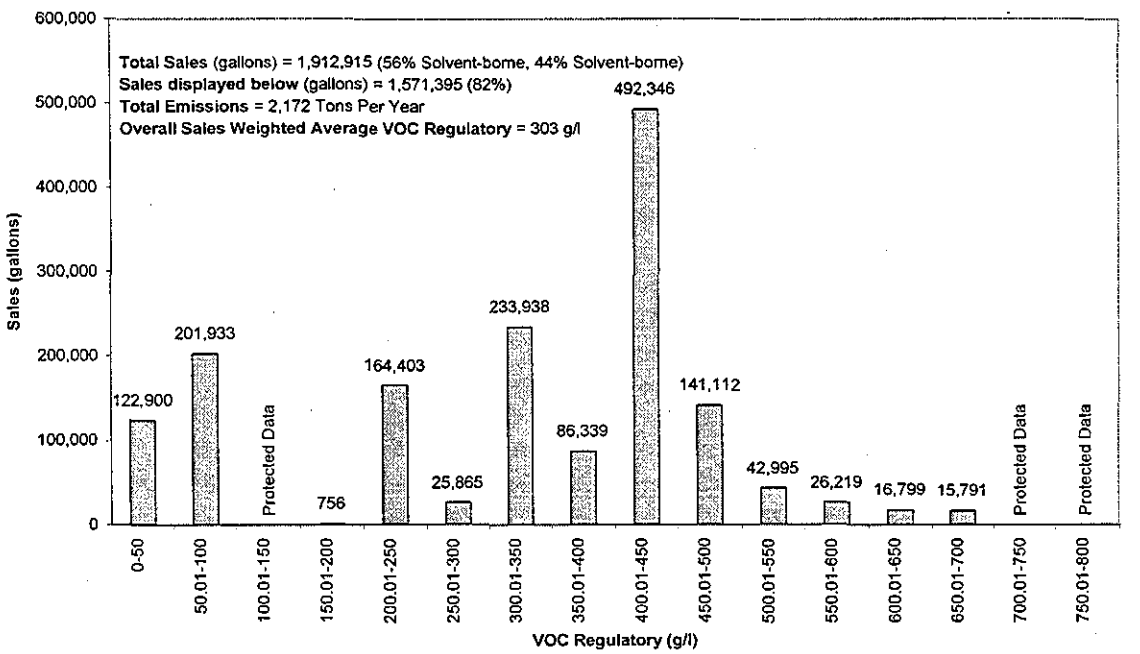


Figure 5-67
Repair & Maintenance Thermoplastic

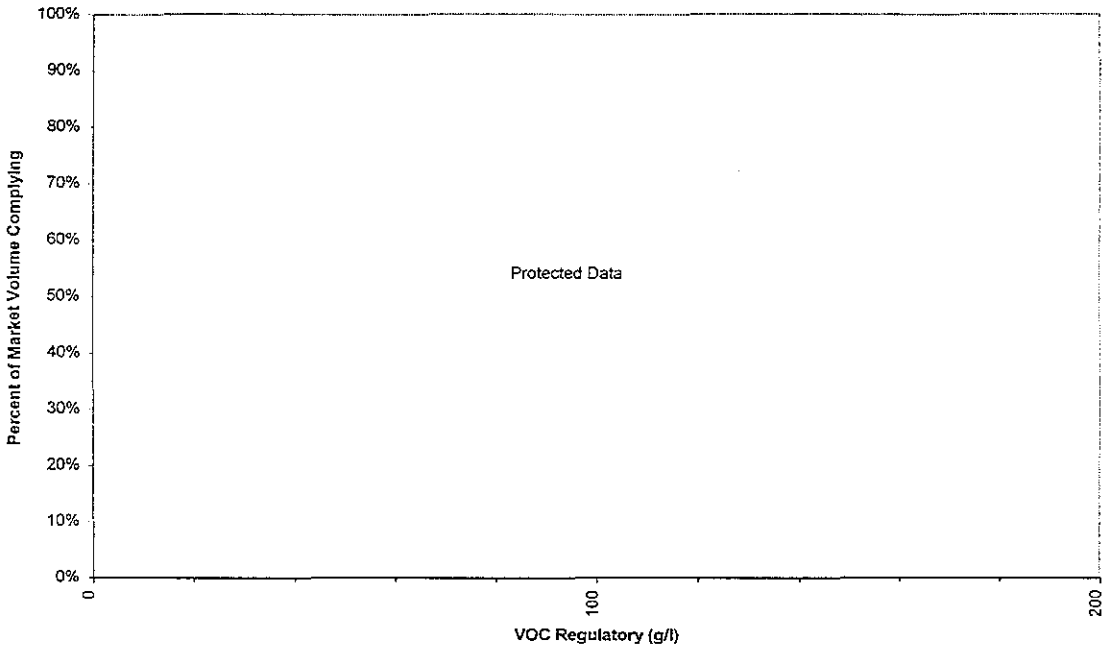


Figure 5-68
Repair & Maintenance Thermoplastic

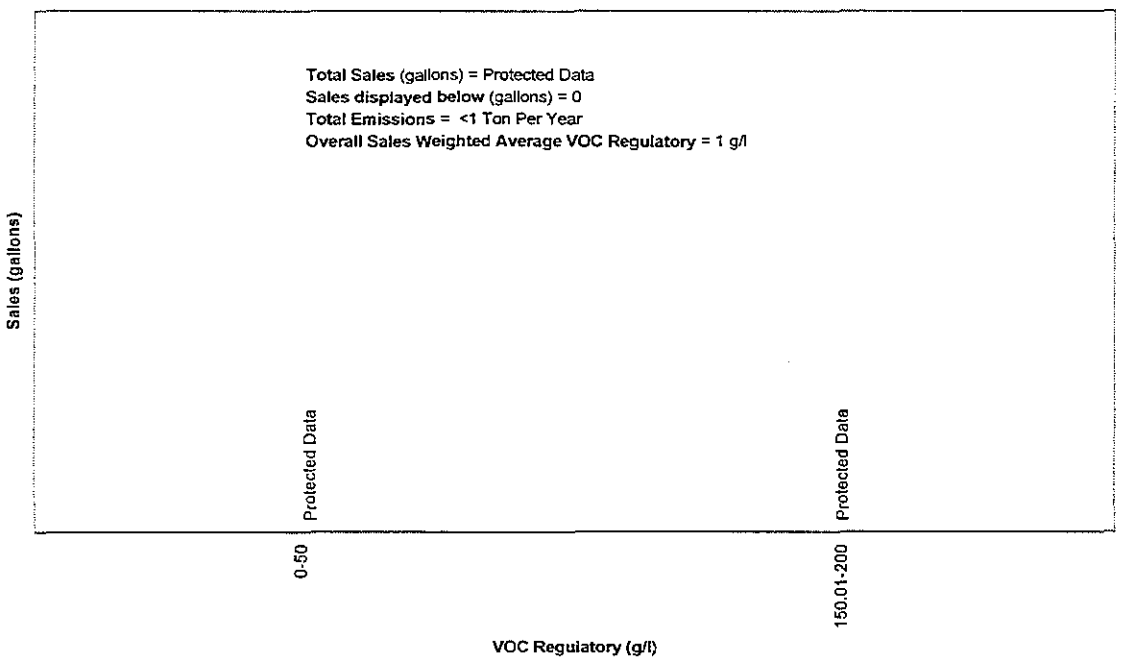


Figure 5-69
Roof

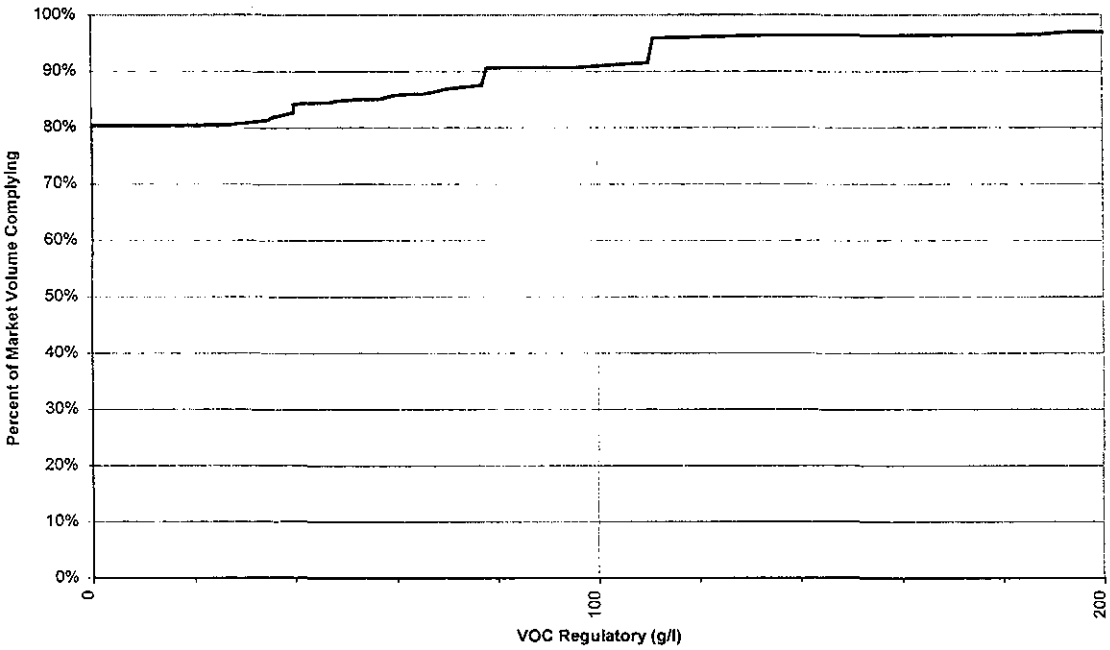


Figure 5-70
Roof

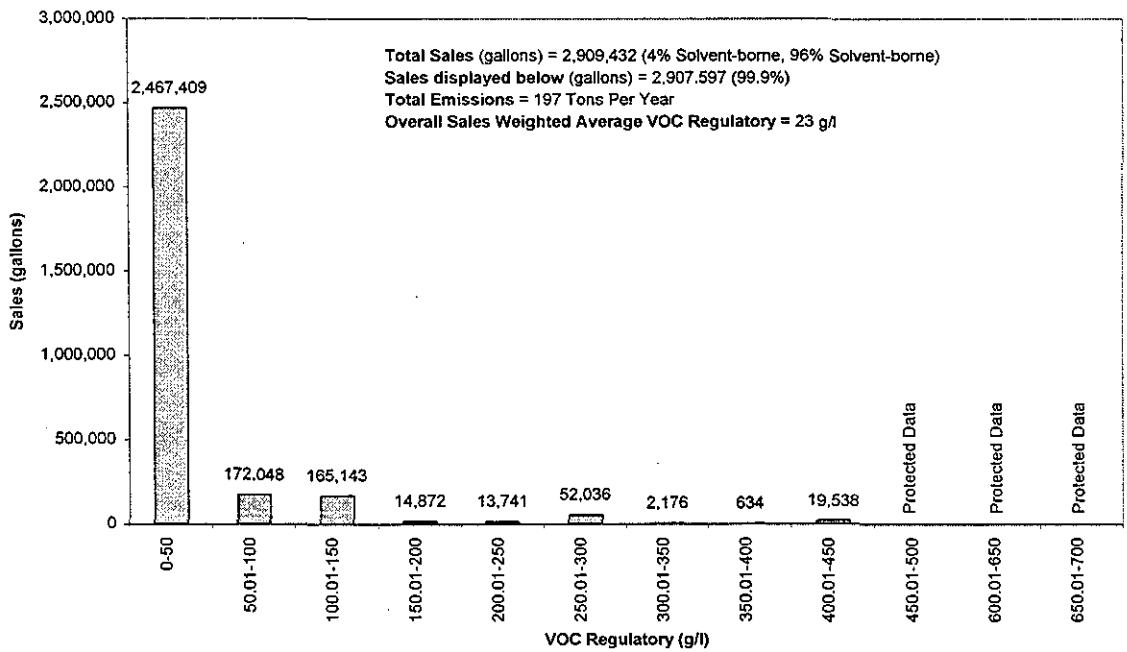


Figure 5-71
Rust Preventative

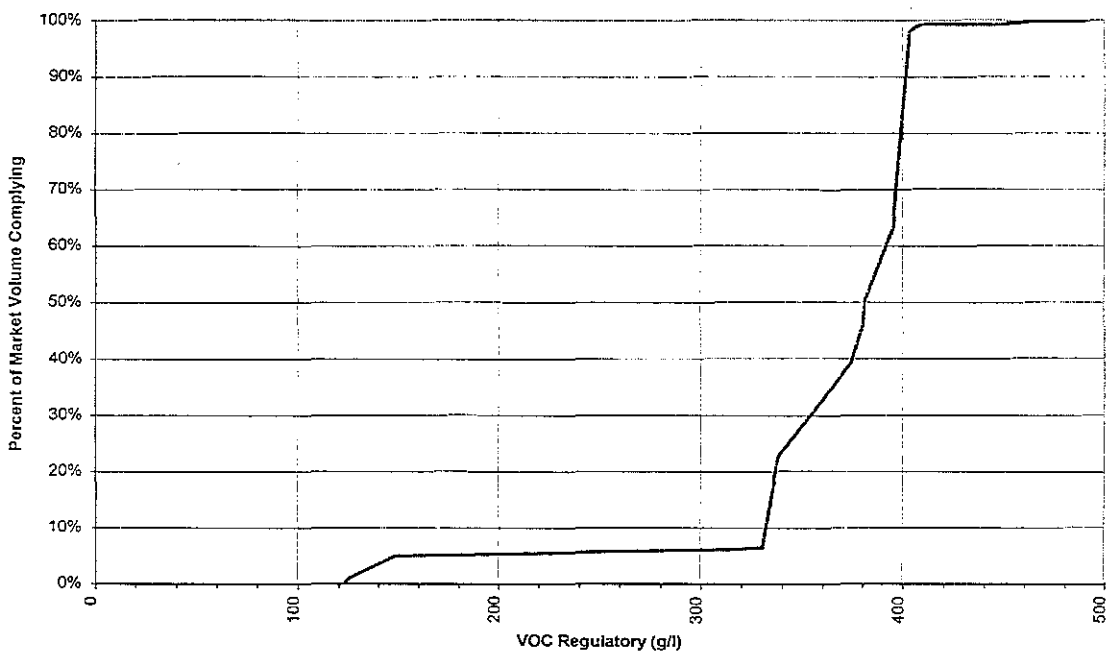


Figure 5-72
Rust Preventative

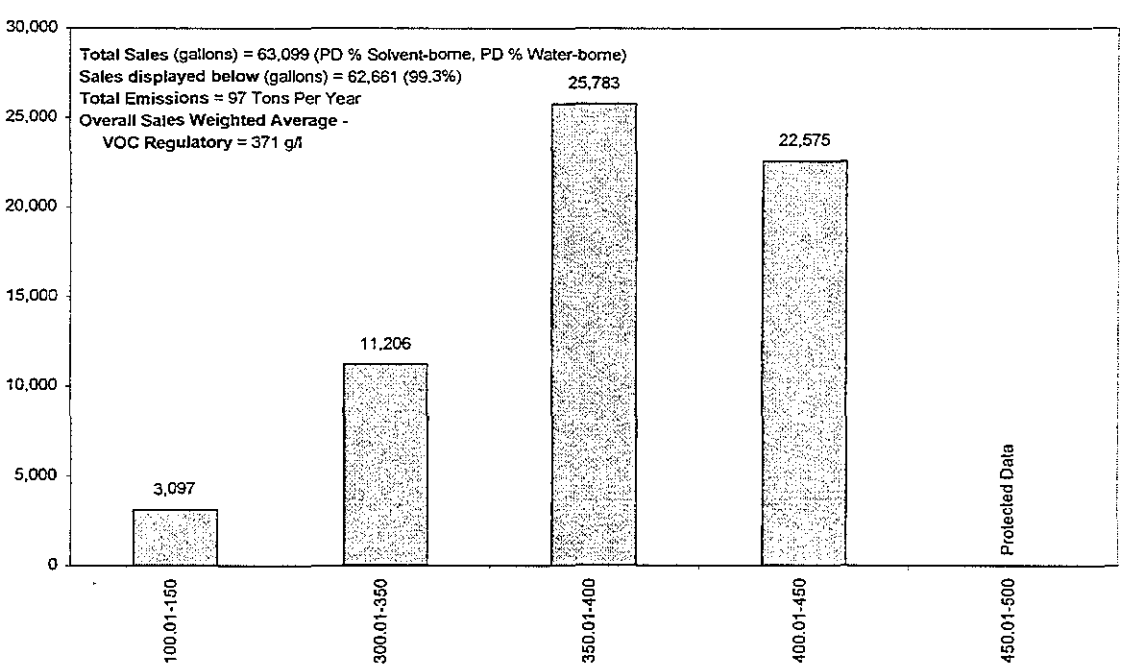


Figure 5-73
Sanding Sealer

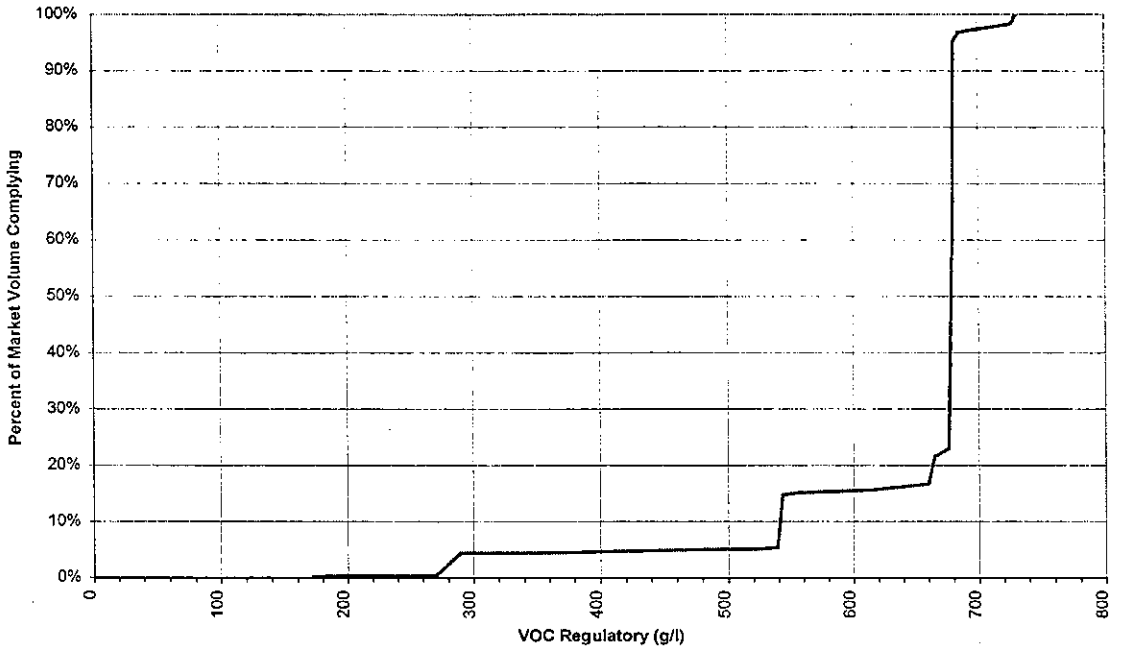


Figure 5-74
Sanding Sealer

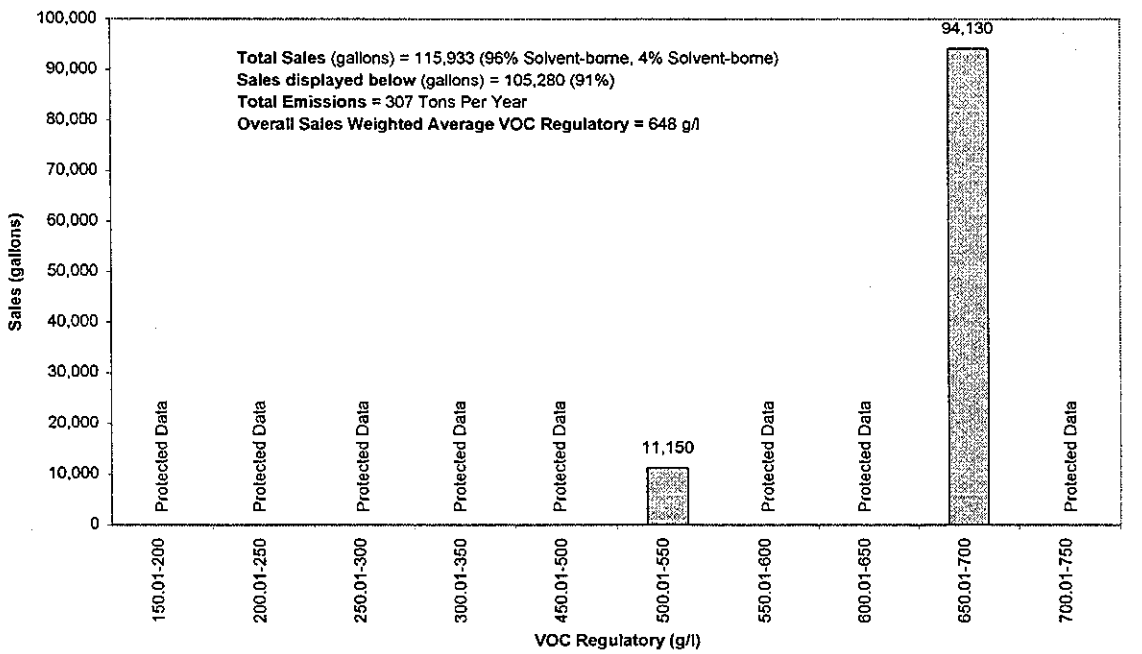


Figure 5-75
Sealer

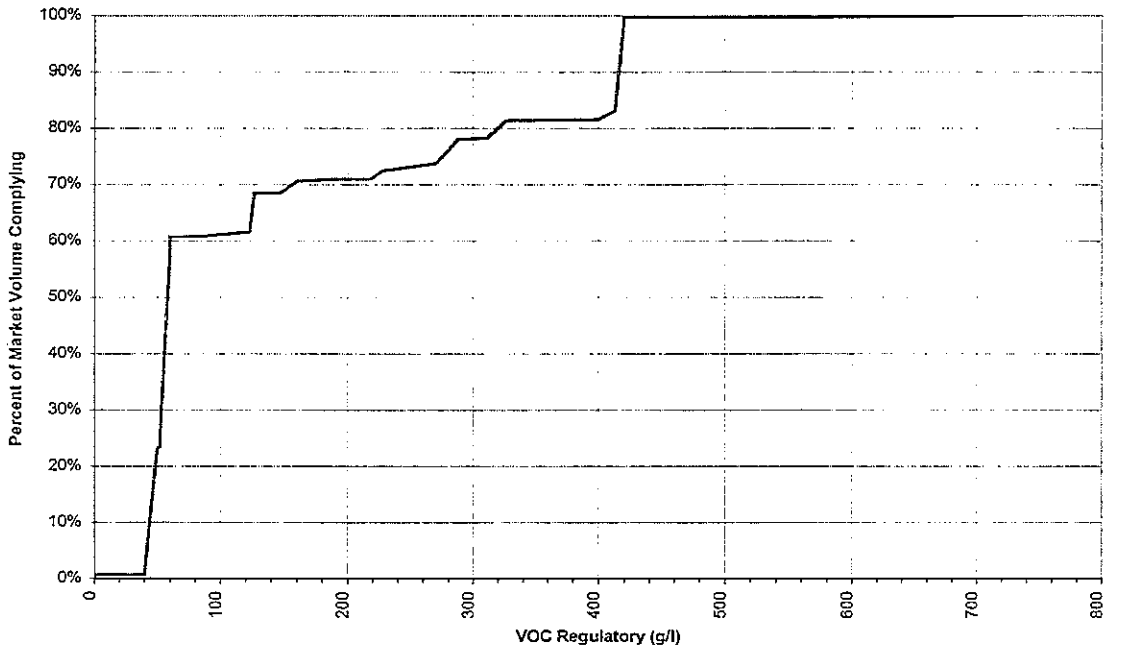


Figure 5-76
Sealer

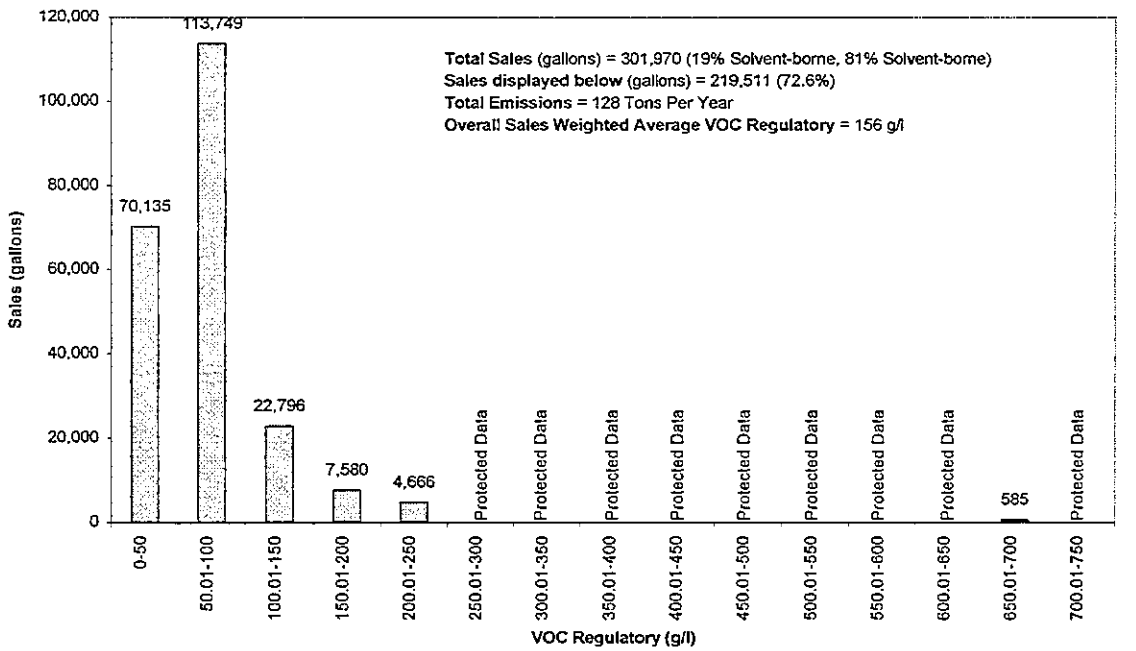


Figure 5-77
Shellac - Clear

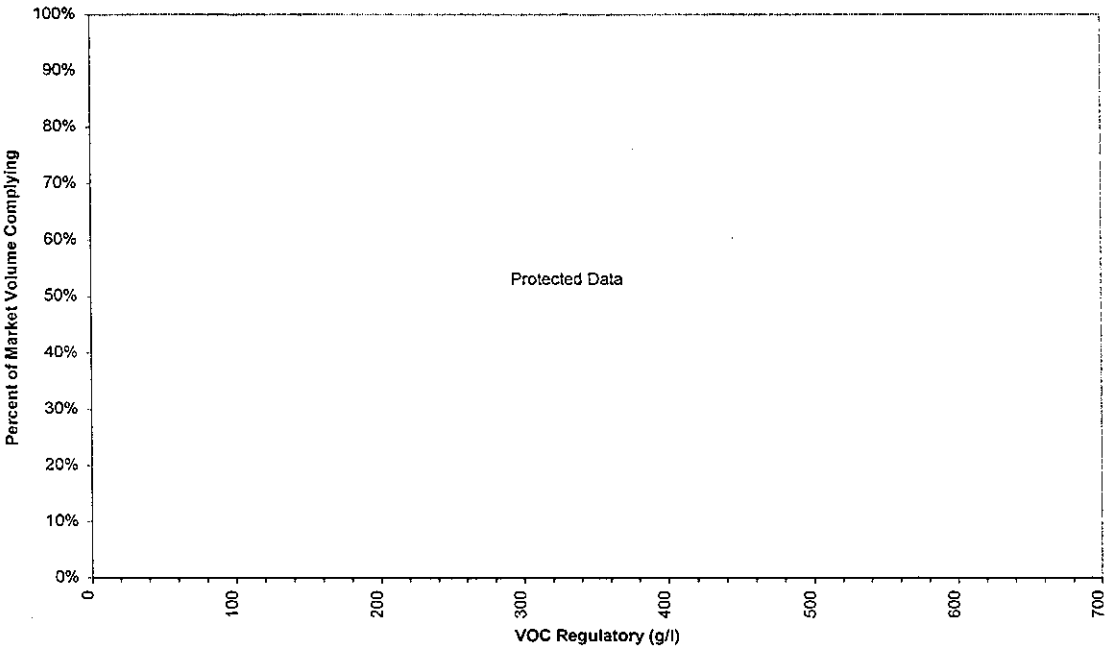


Figure 5-78
Shellac - Clear

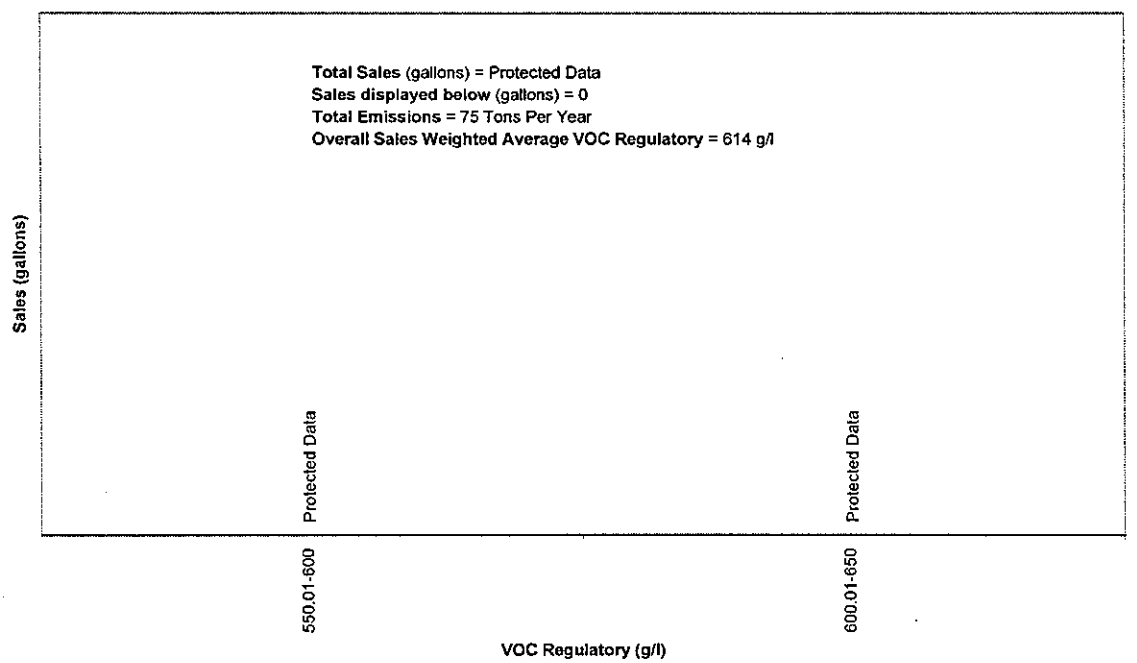


Figure 5-79
Shellac - Opaque

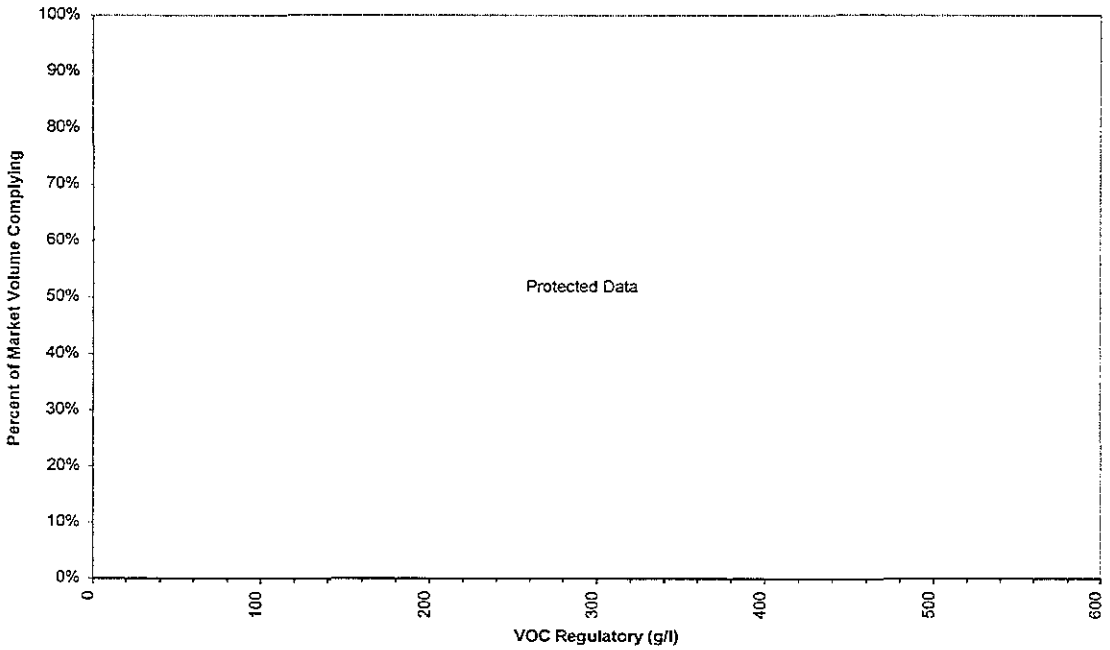


Figure 5-80
Shellac - Opaque

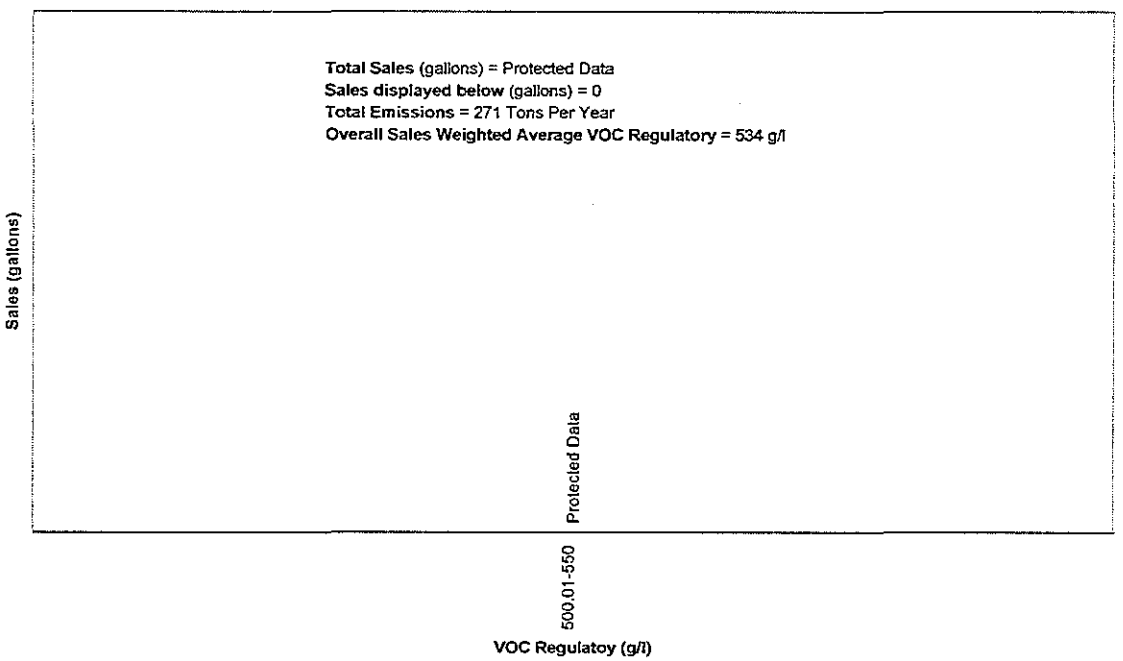


Figure 5-81
Stain - Clear

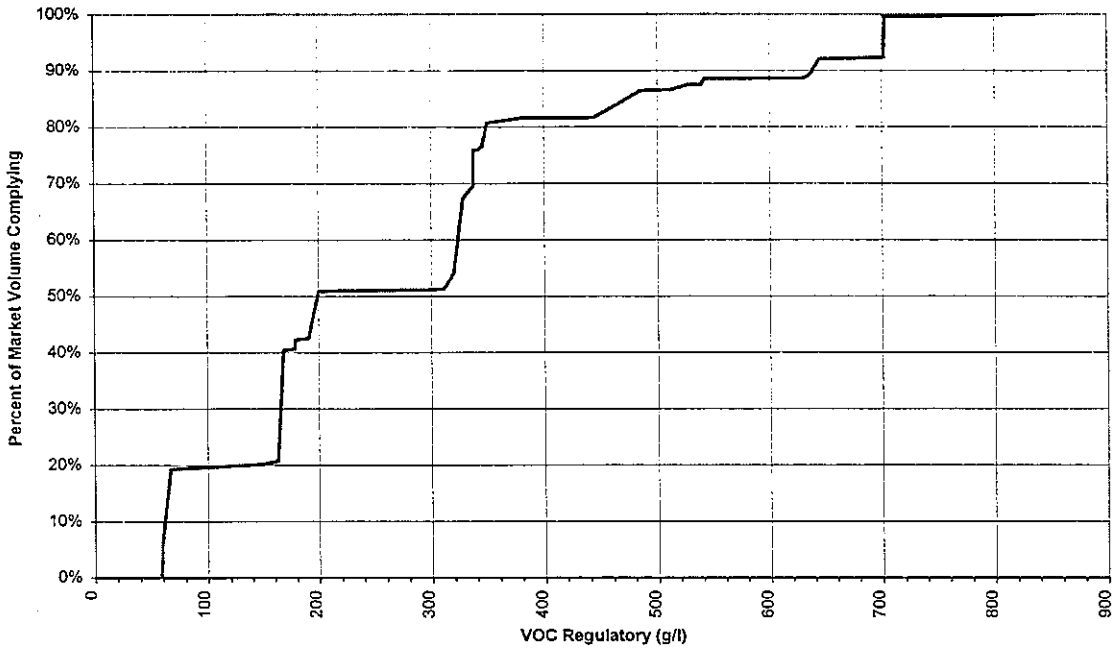


Figure 5-82
Stain - Clear

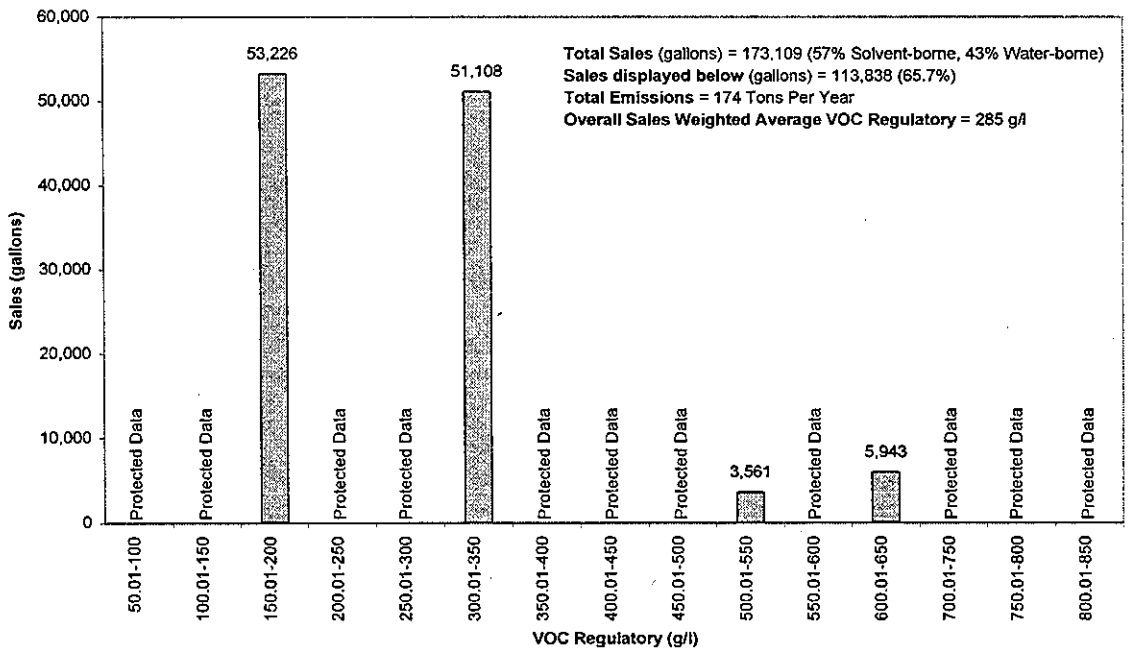


Figure 5-83
Stain - Semitransparent

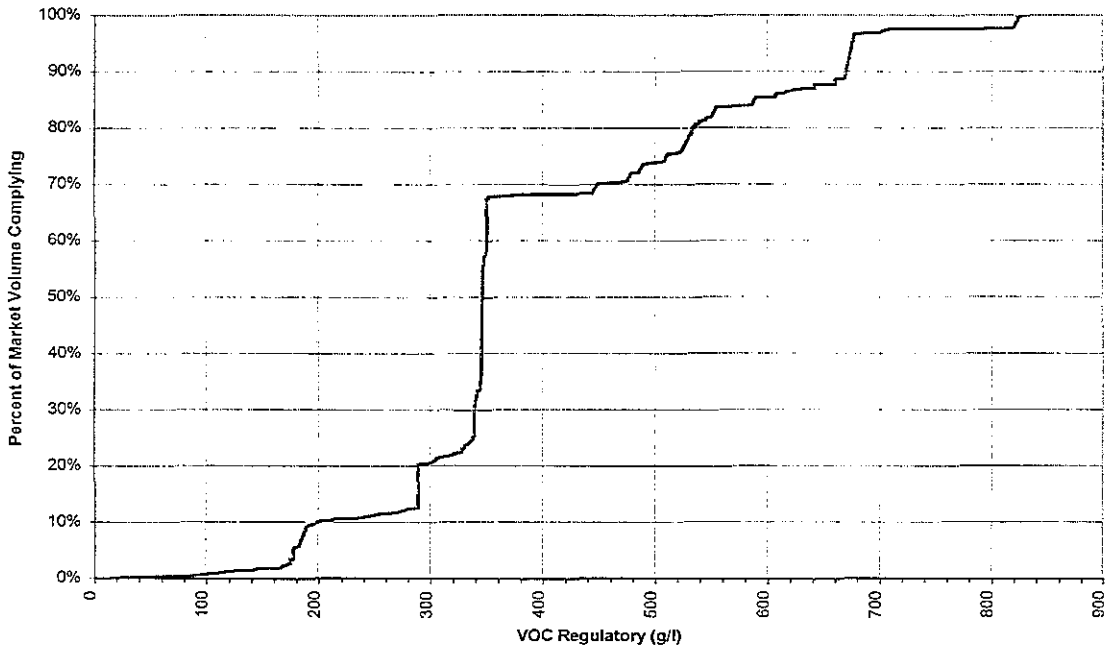


Figure 5-84
Stain - Semitransparent

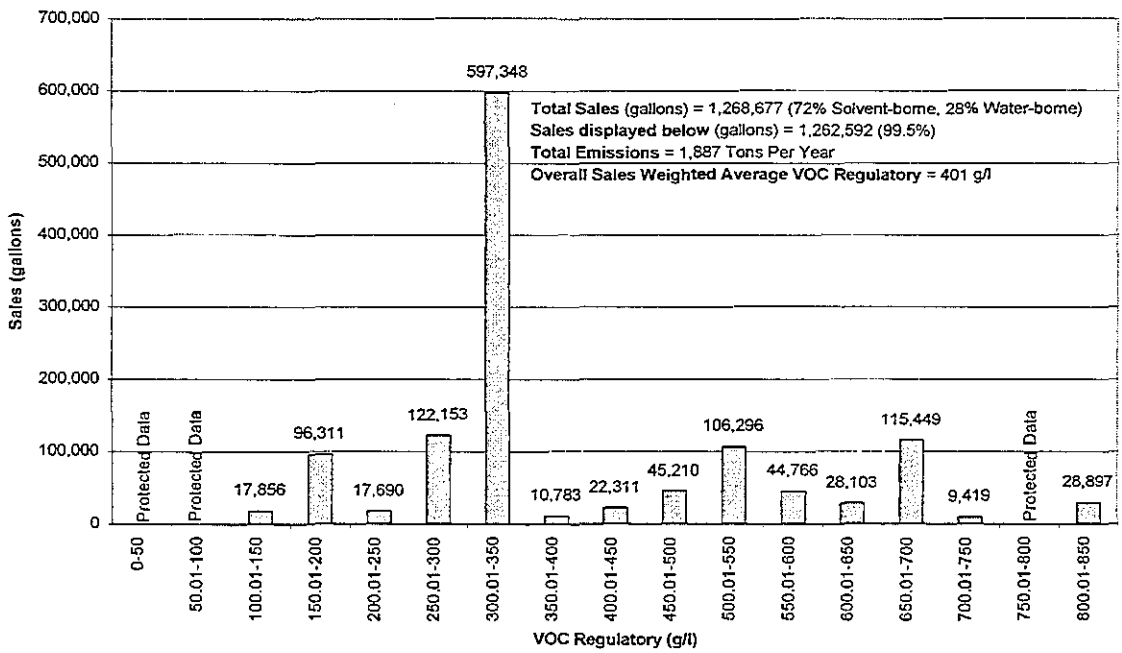


Figure 5-85
Stain - Opaque

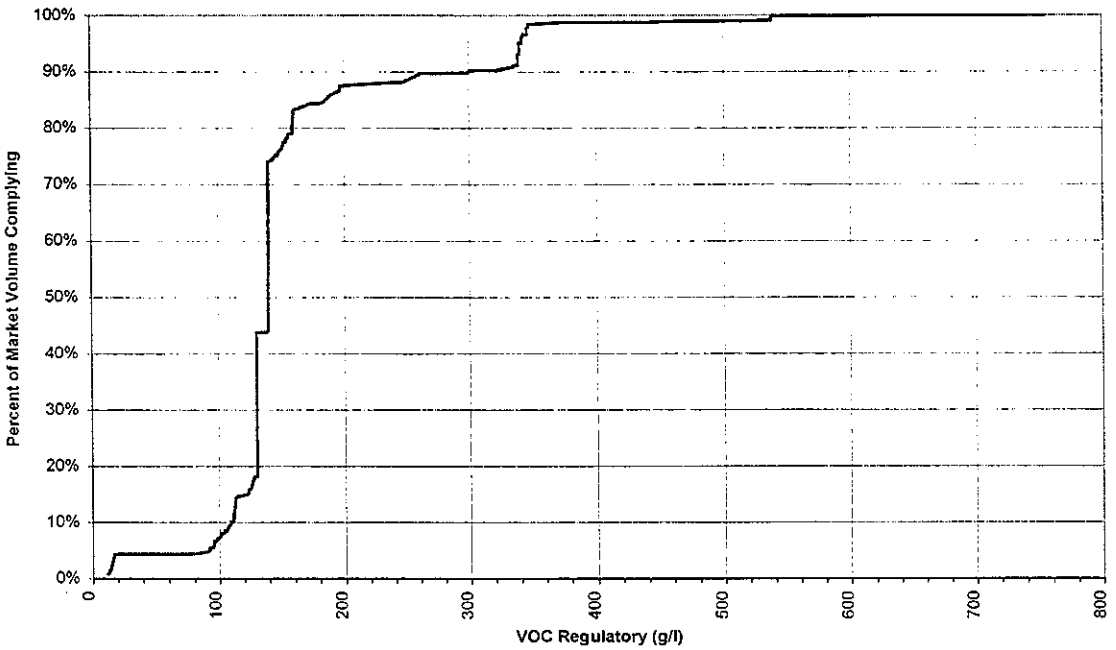


Figure 5-86
Stain - Opaque

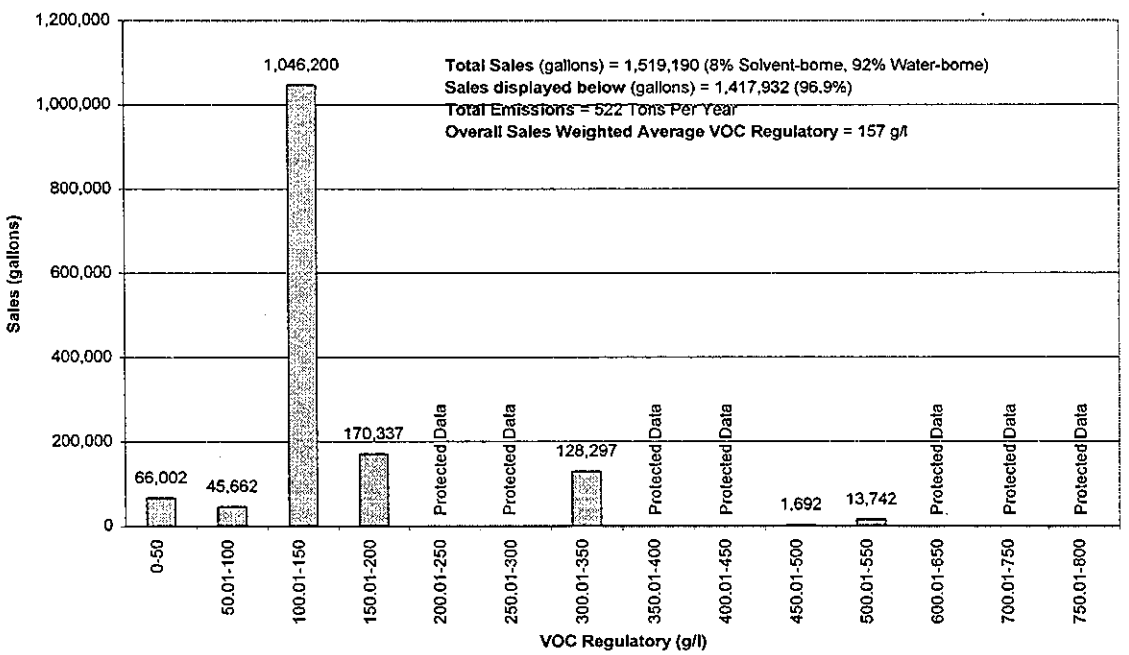


Figure 5-87
Stain - Low Solid

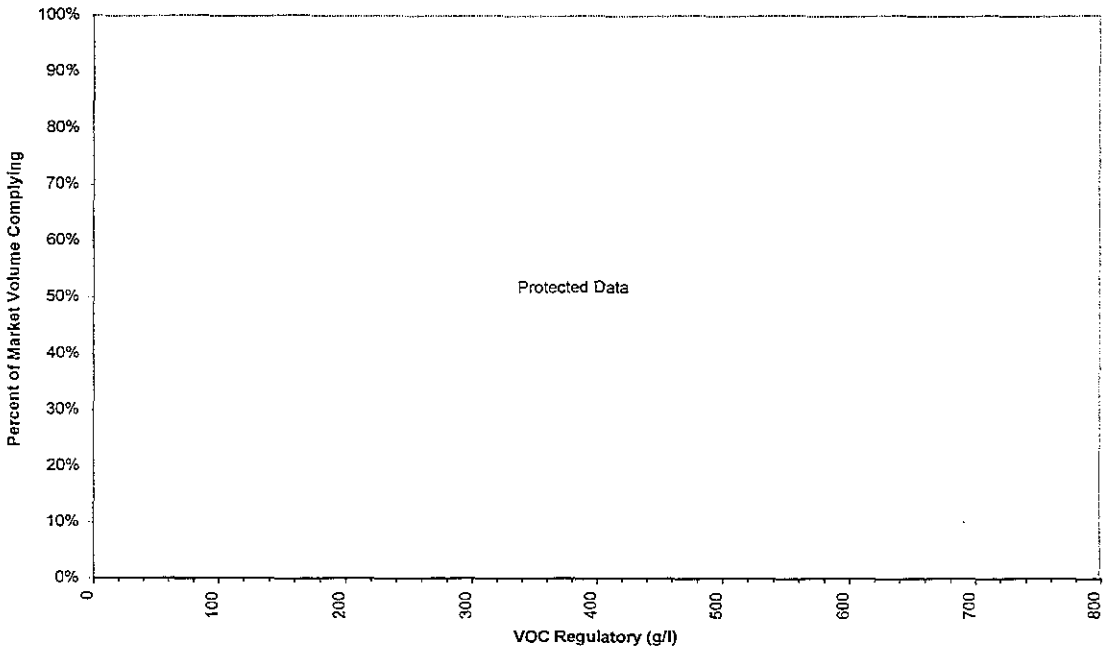


Figure 5-88
Stain - Low Solid

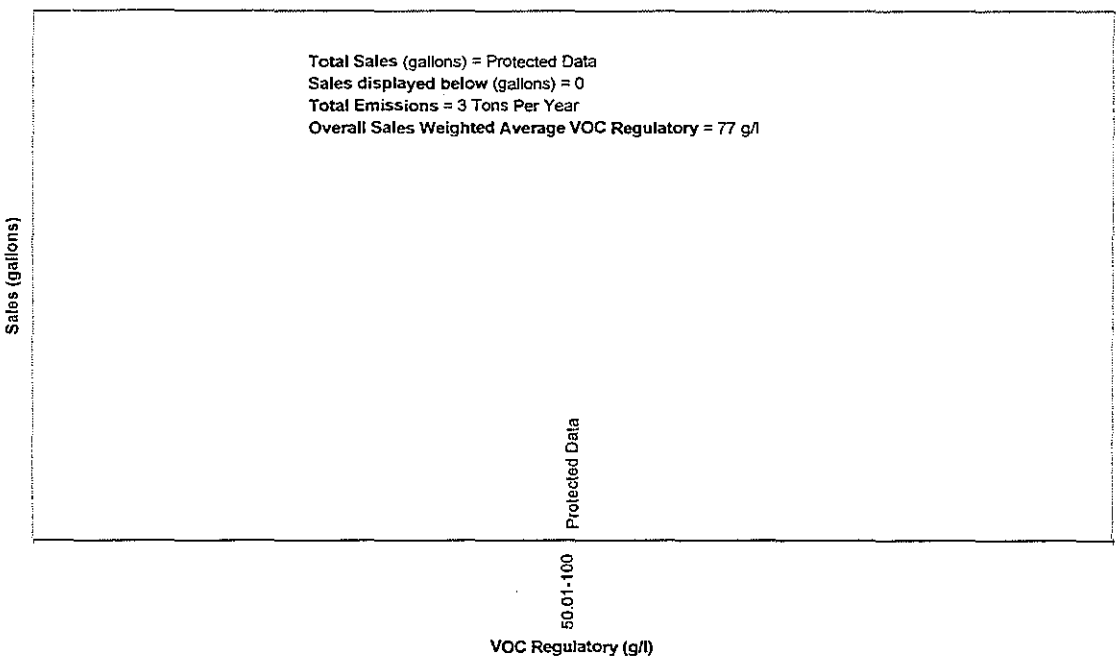


Figure 5-89
Swimming Pool - General

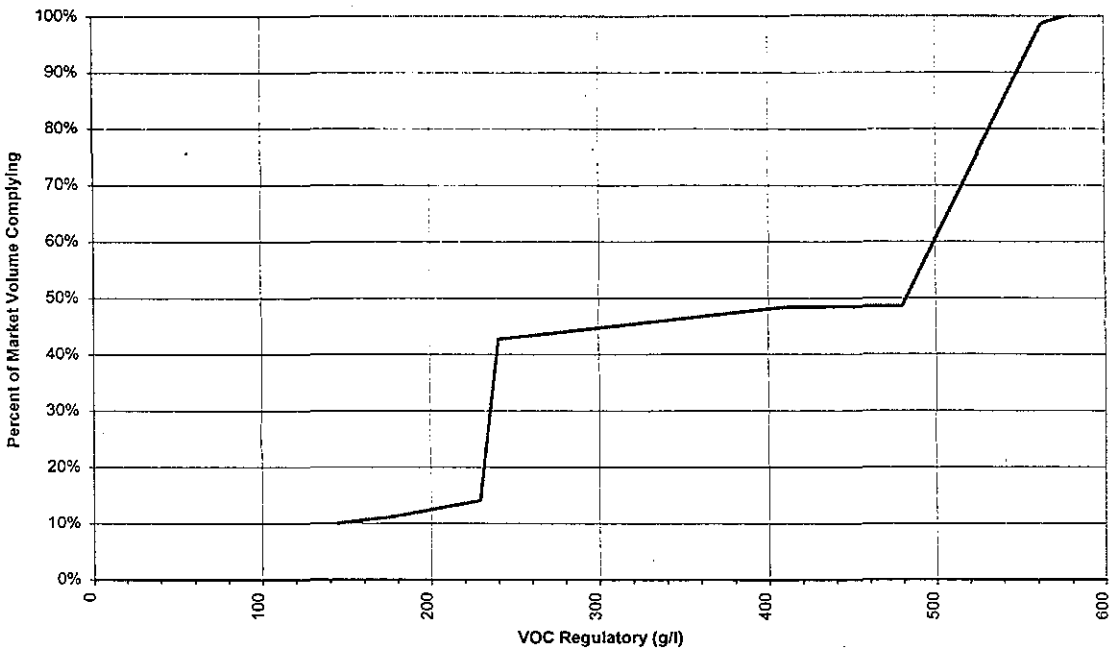


Figure 5-90
Swimming Pool - General

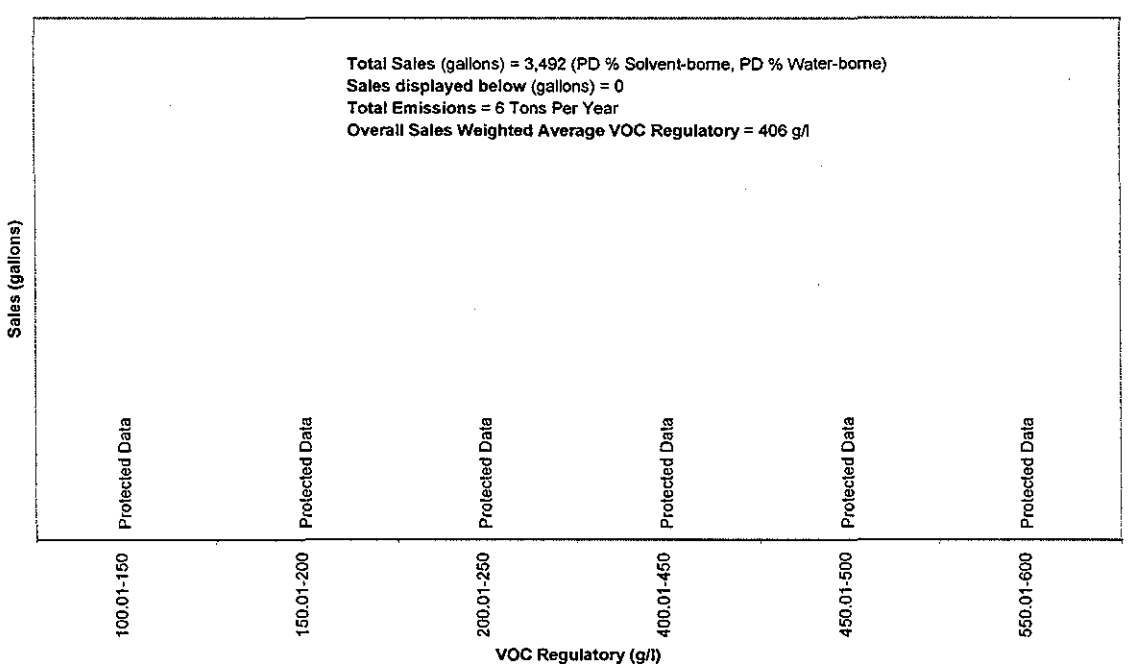


Figure 5-91
Swimming Pool - Repair

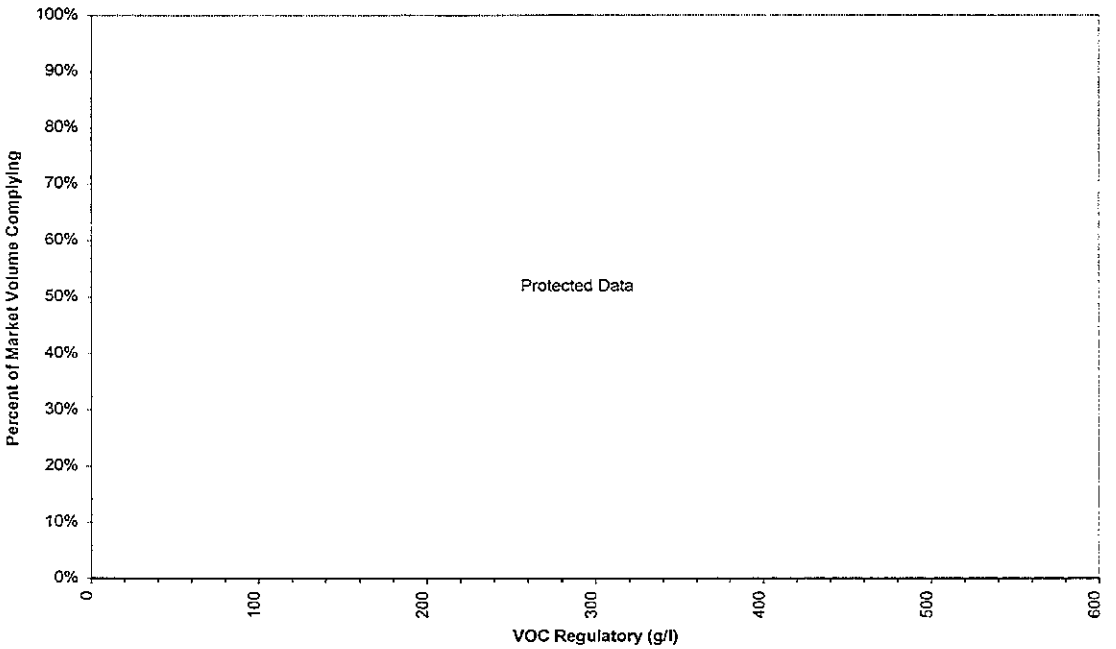


Figure 5-92
Swimming Pool - Repair

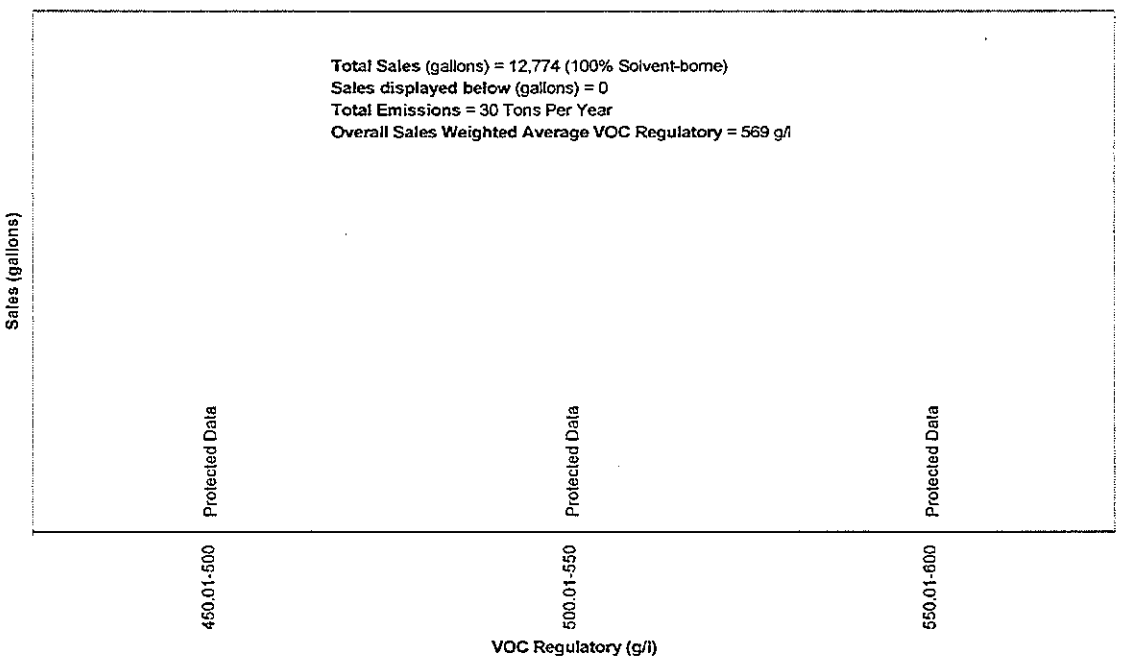


Figure 5-93
Thermoplastic Rubber & Mastic

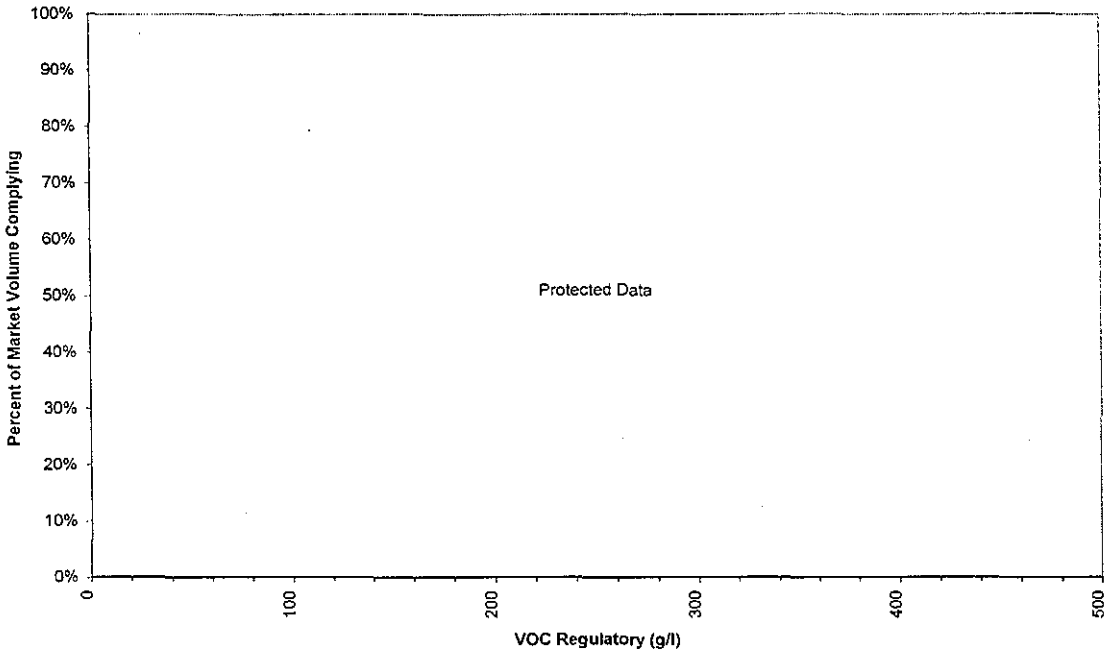


Figure 5-94
Thermoplastic Rubber & Mastic

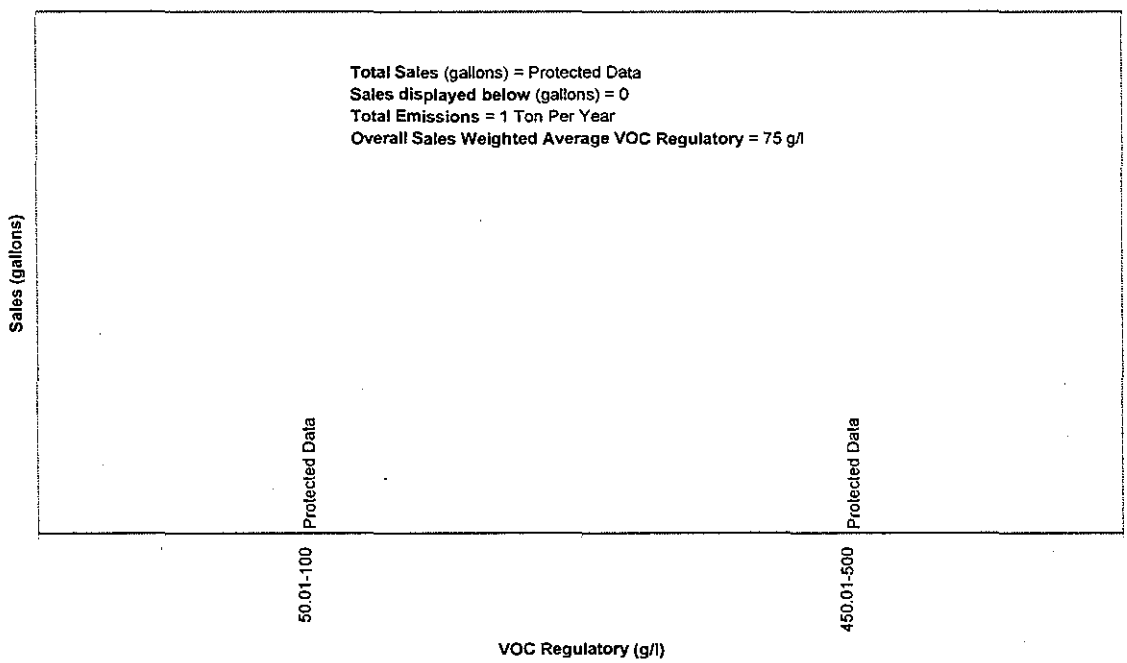


Figure 5-95
Traffic

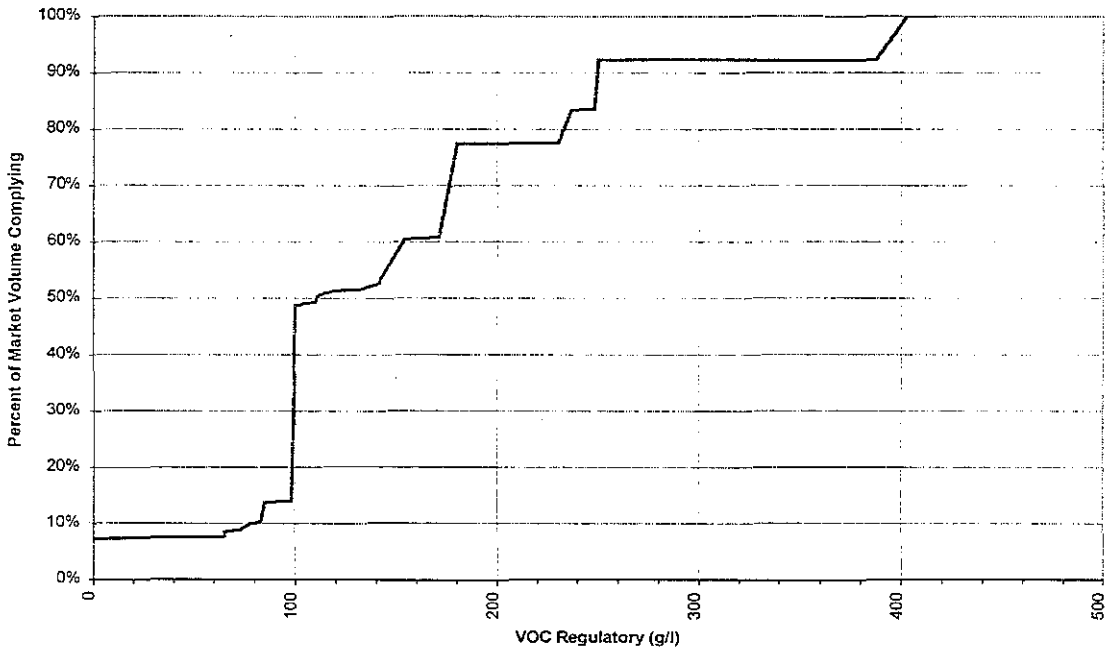


Figure 5-96
Traffic

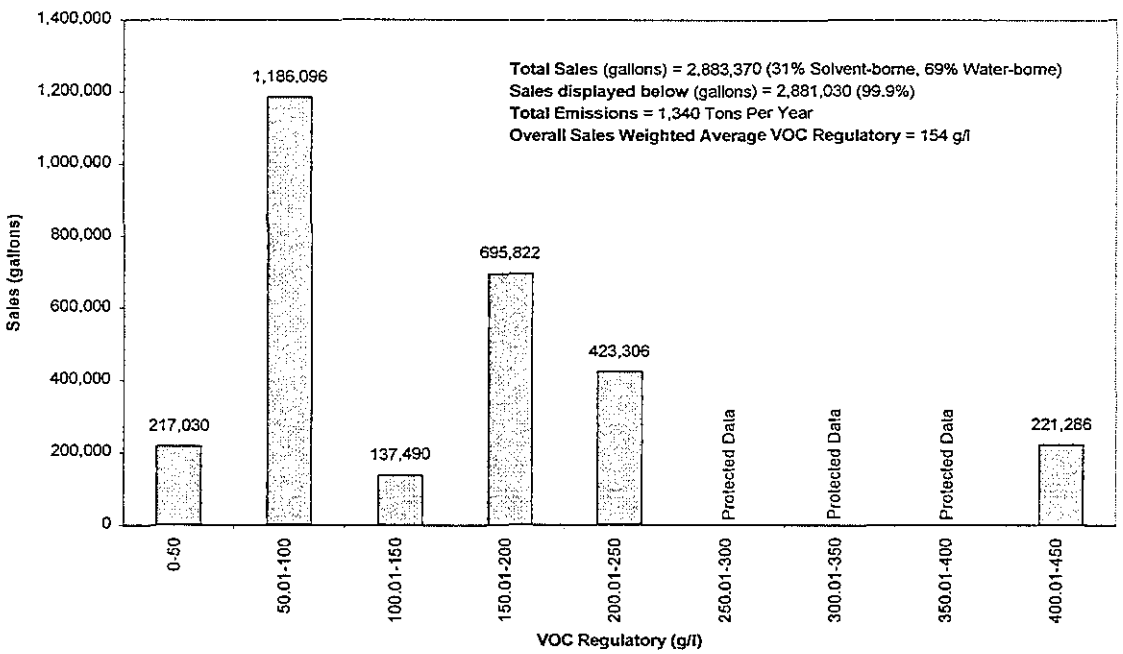


Figure 5-97
Varnish - Clear

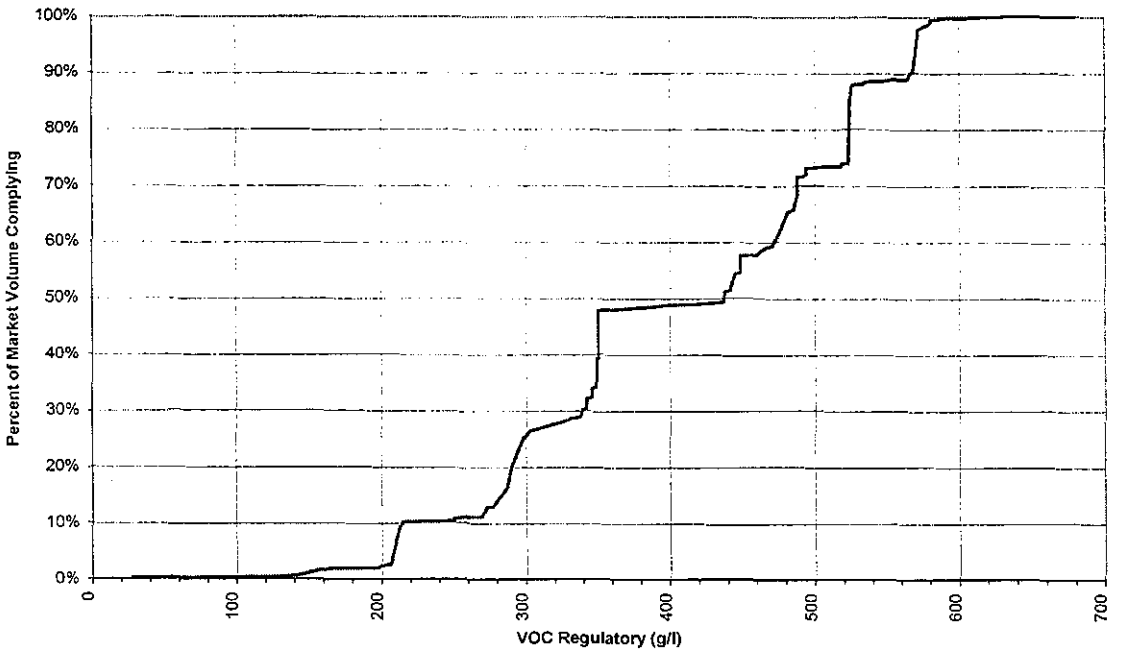


Figure 5-98
Varnish - Clear

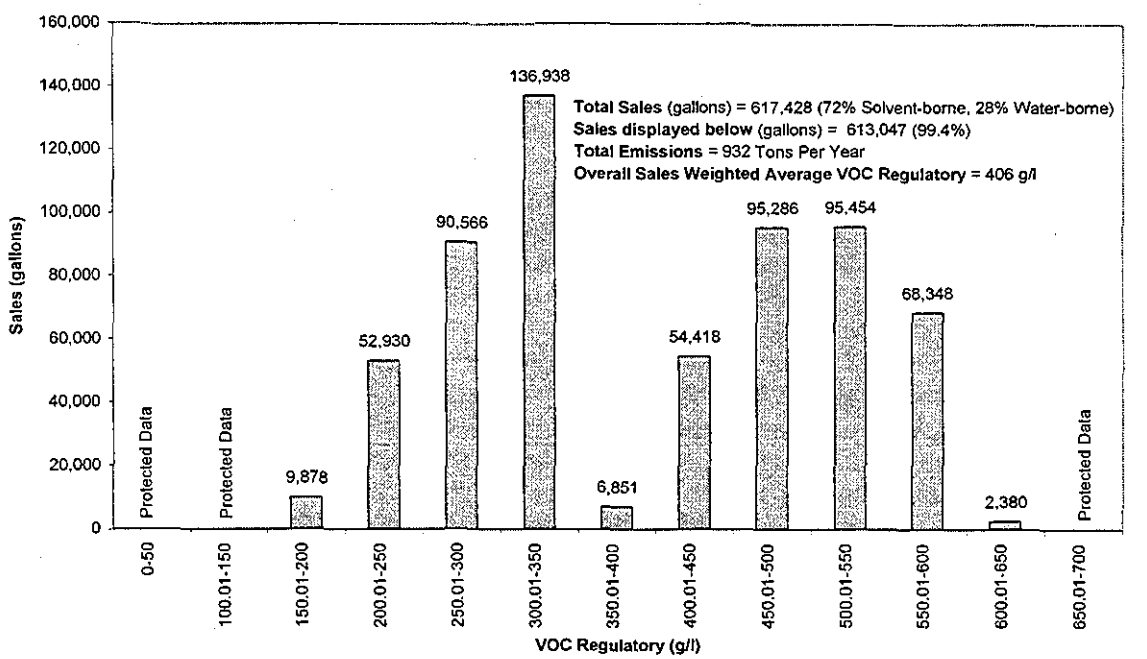


Figure 5-99
Varnish - Semitransparent

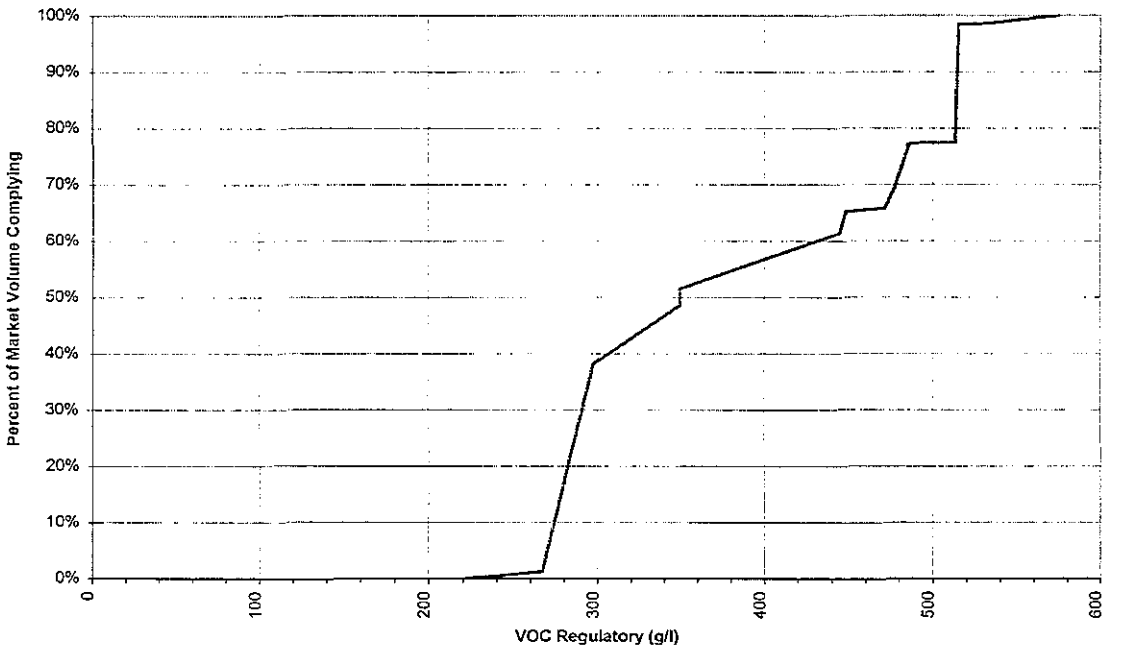


Figure 5-100
Varnish - Semitransparent

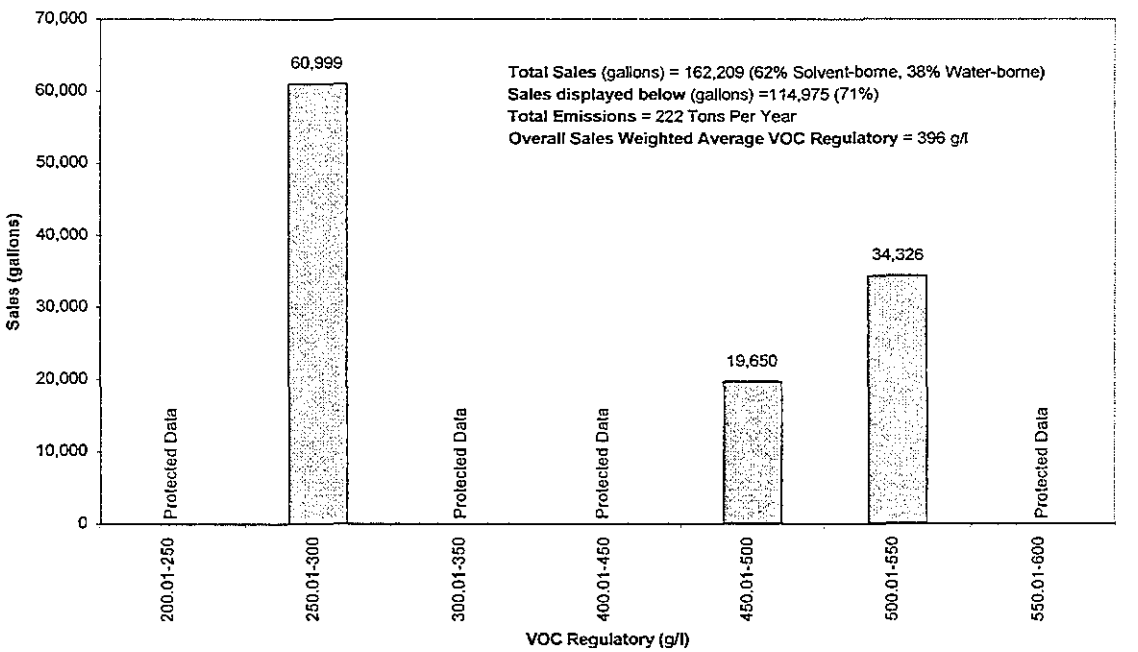


Figure 5-101
Waterproofing Sealer - Clear

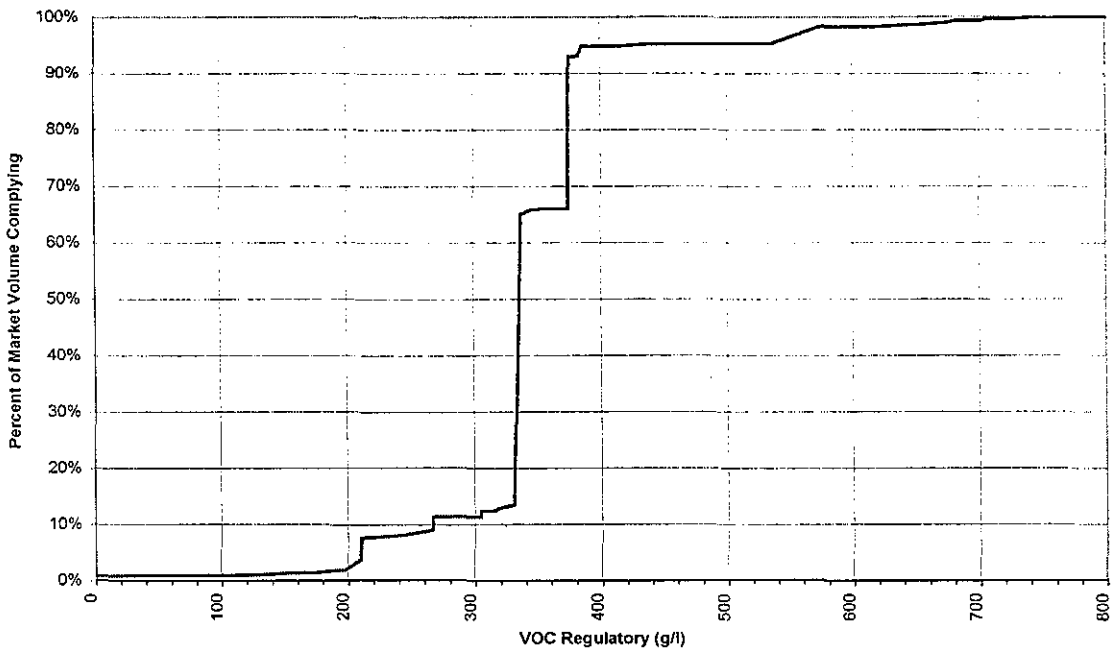


Figure 5-102
Waterproofing Sealer - Clear

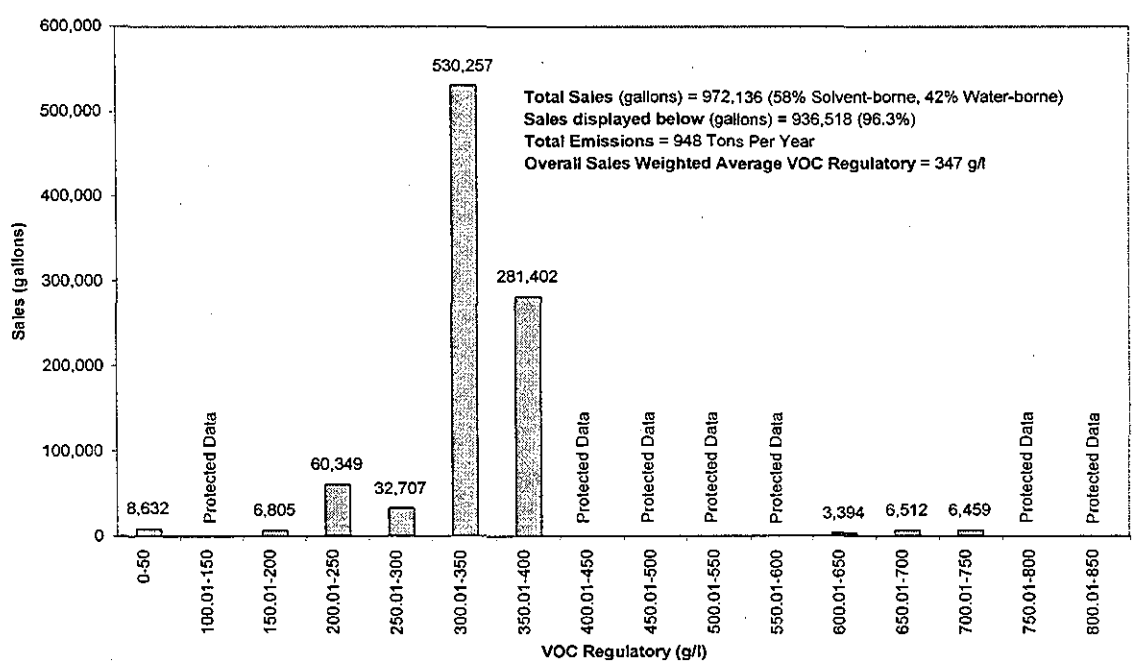


Figure 5-103
Waterproofing Sealer - Opaque

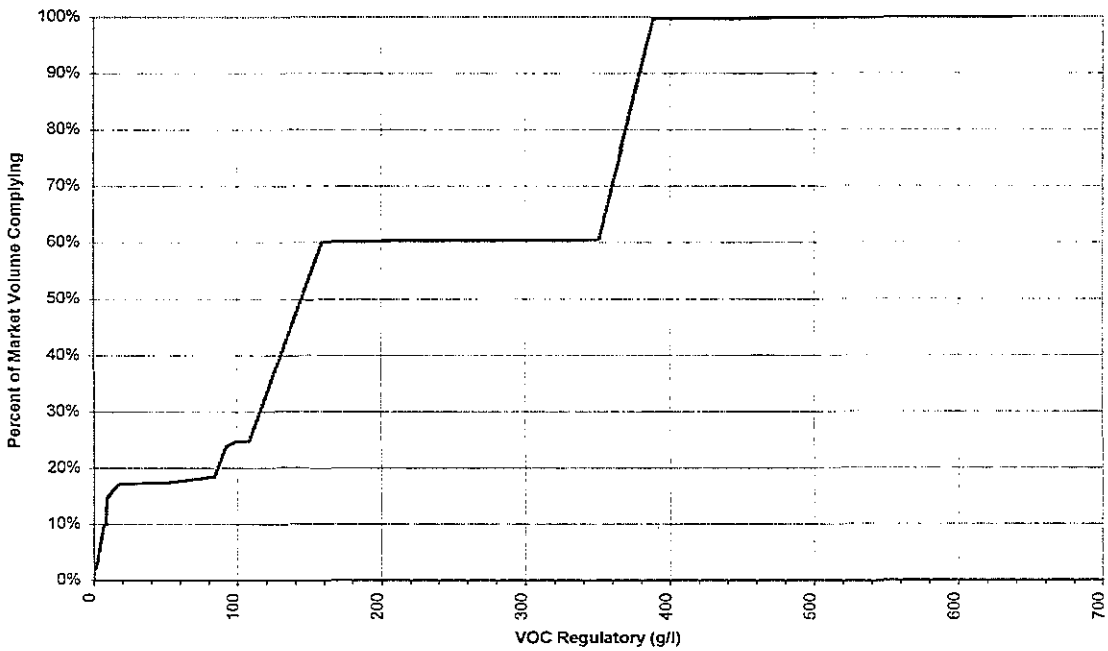


Figure 5-104
Waterproofing Sealer - Opaque

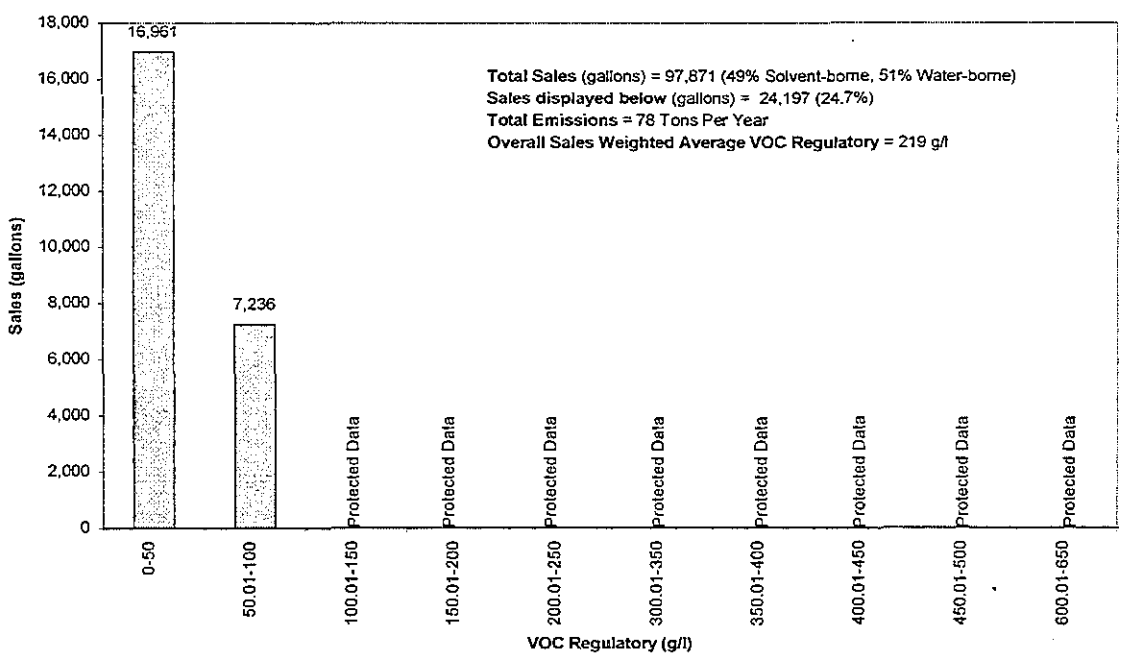


Figure 5-105
Wood Preservative - Below Ground

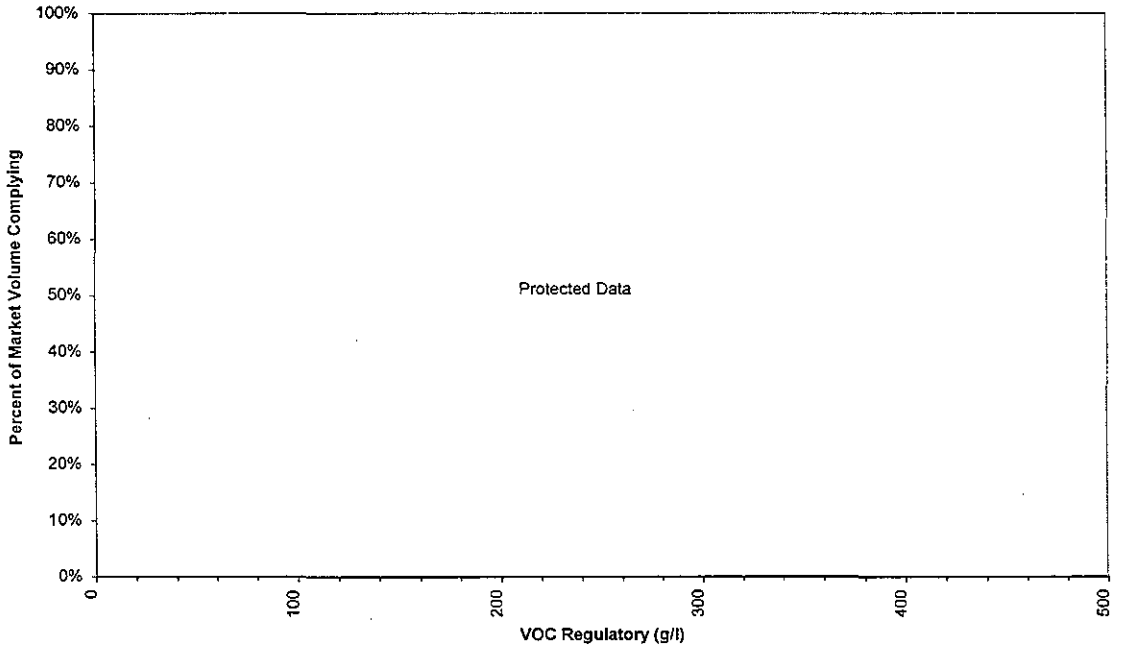


Figure 5-106
Wood Preservative - Below Ground

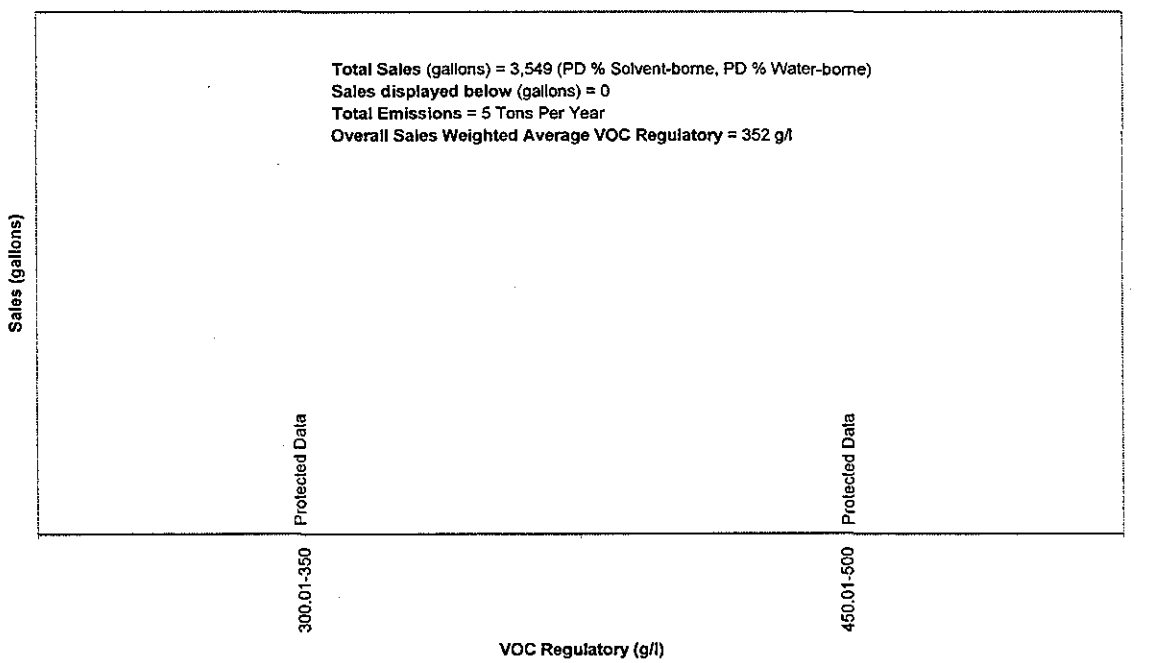


Figure 5-107
Wood Preservative - Clear

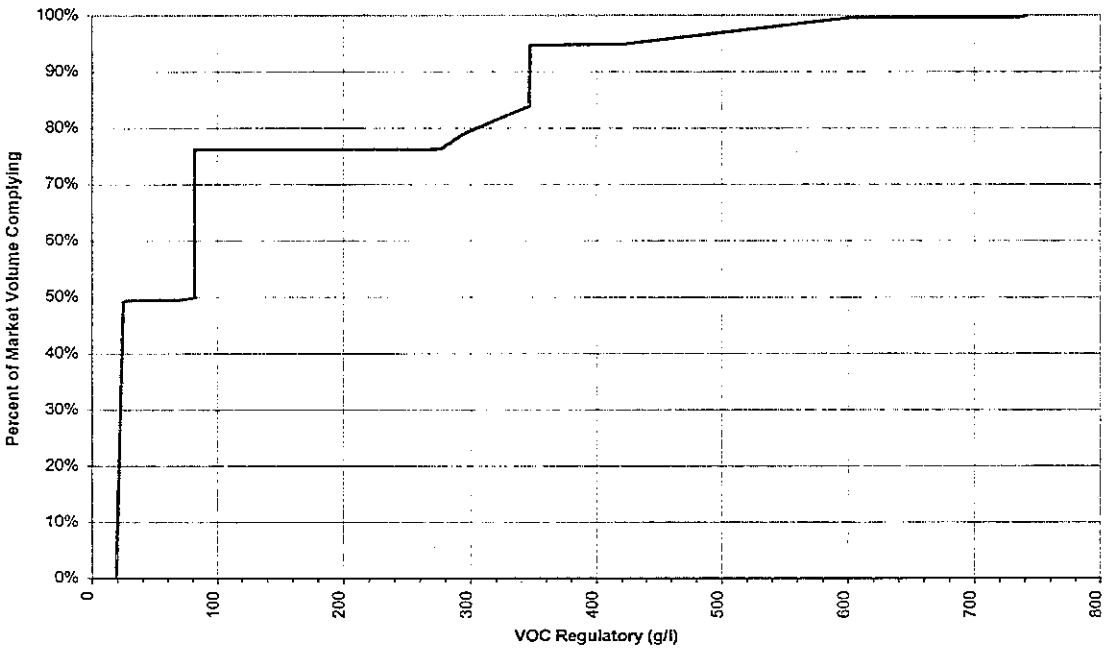


Figure 5-108
Wood Preservative - Clear

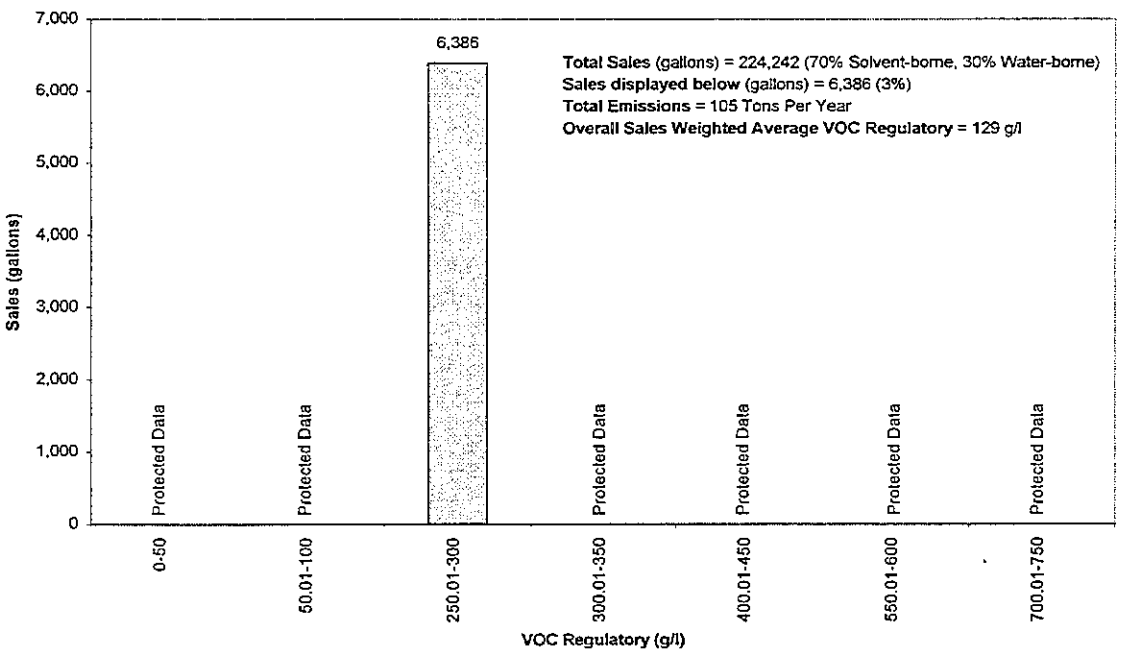


Figure 5-109
Wood Preservative - Semitransparent

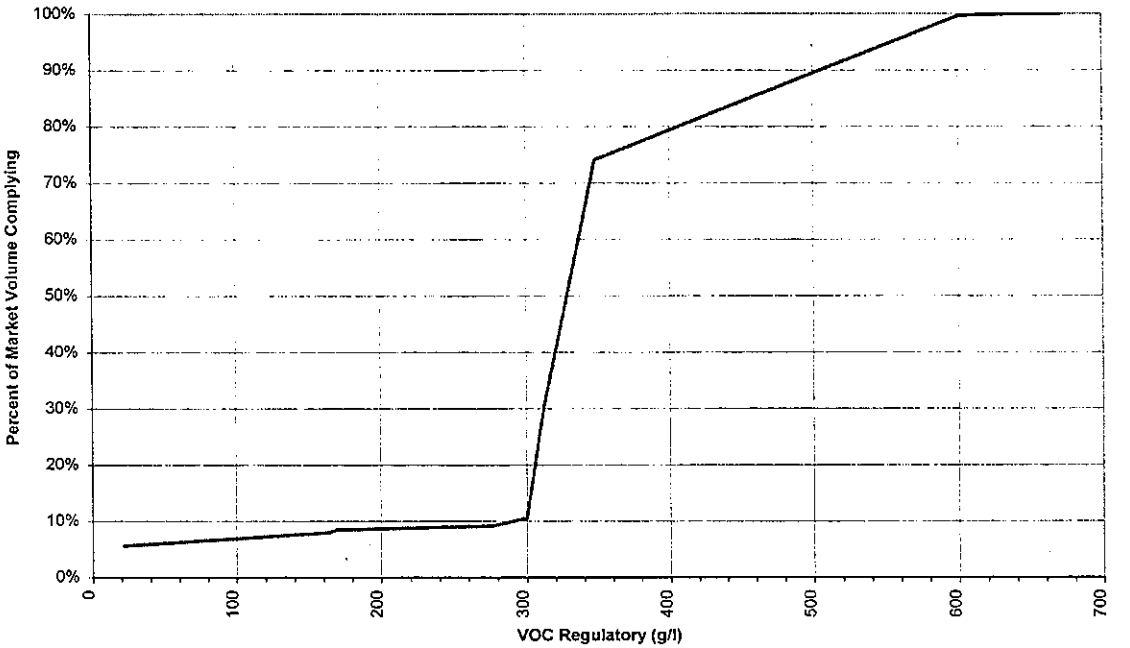


Figure 110
Wood Preservative - Semitransparent

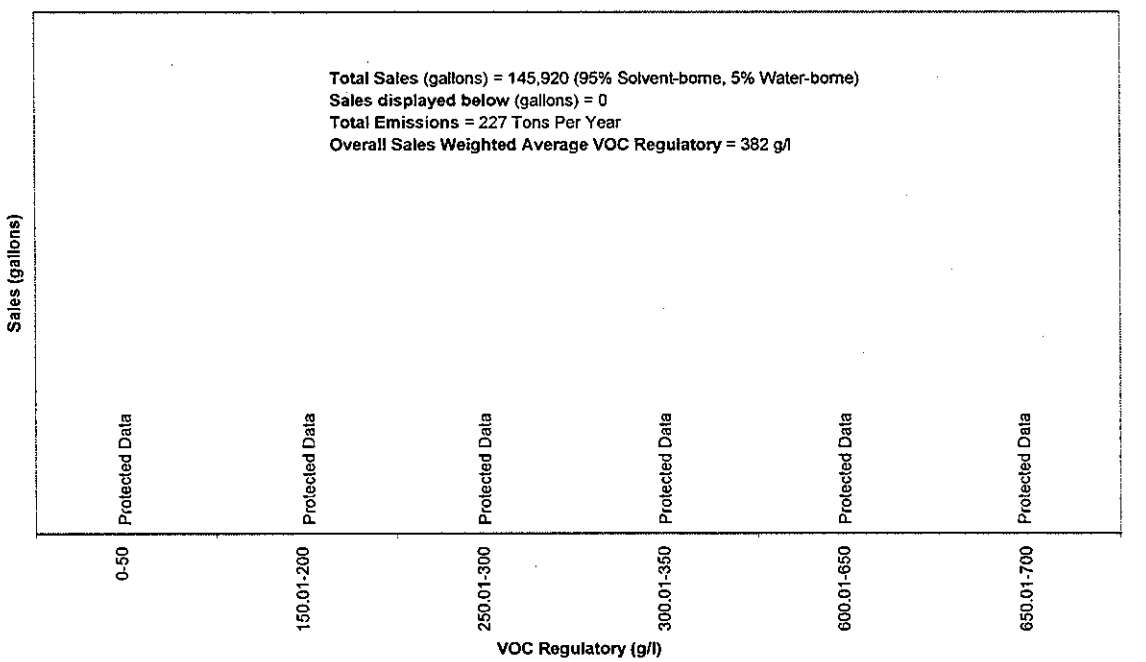


Figure 5-111
Wood Preservative - Opaque

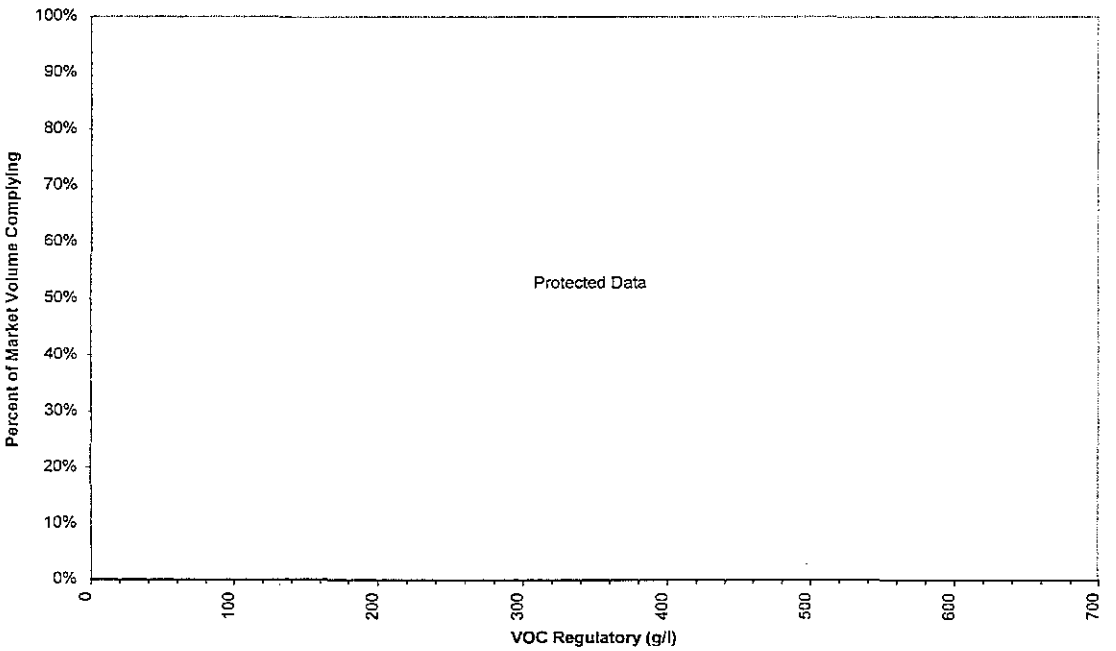


Figure 5-112
Wood Preservative - Opaque

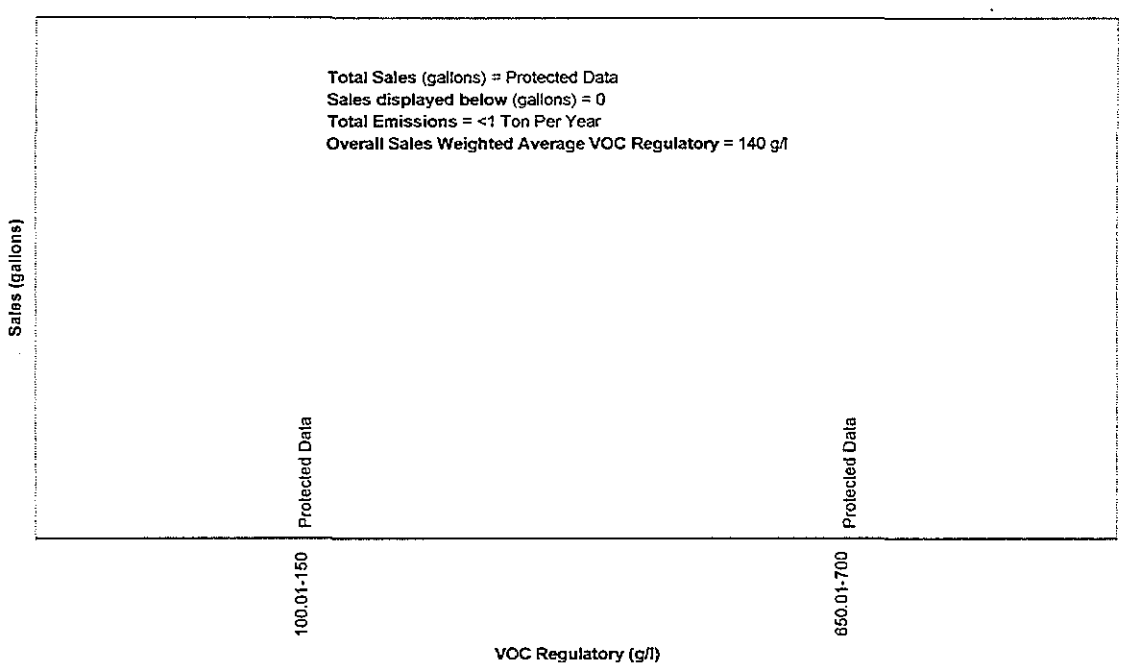


Figure 5-113
Wood Preservative - Low Solid

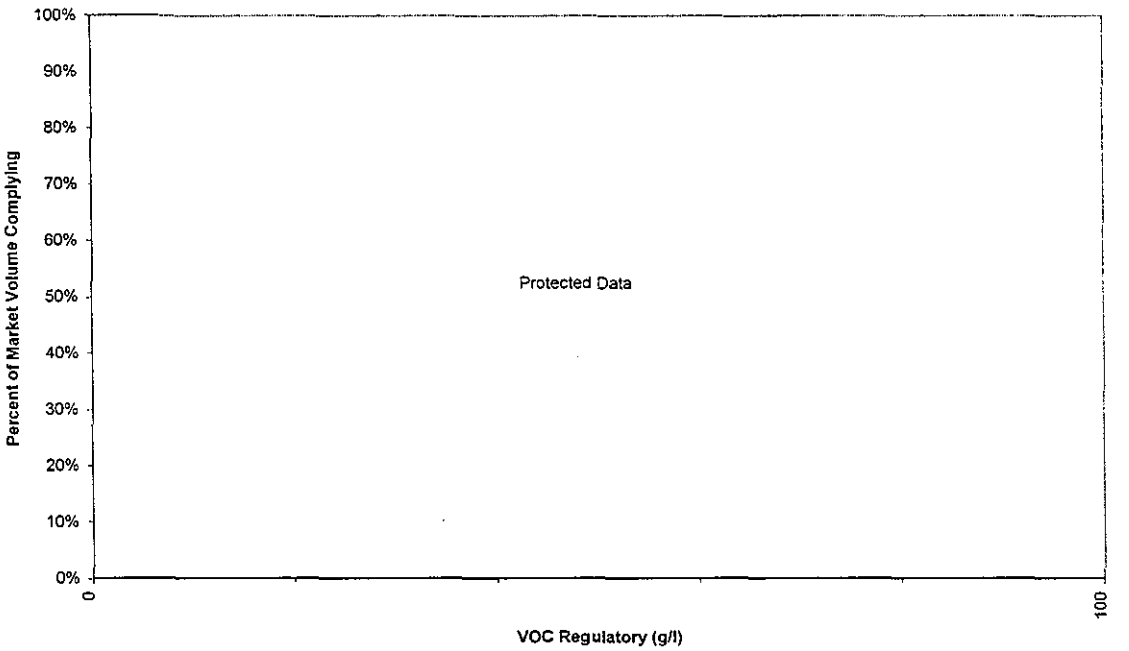


Figure 5-114
Wood Preservative - Low Solid

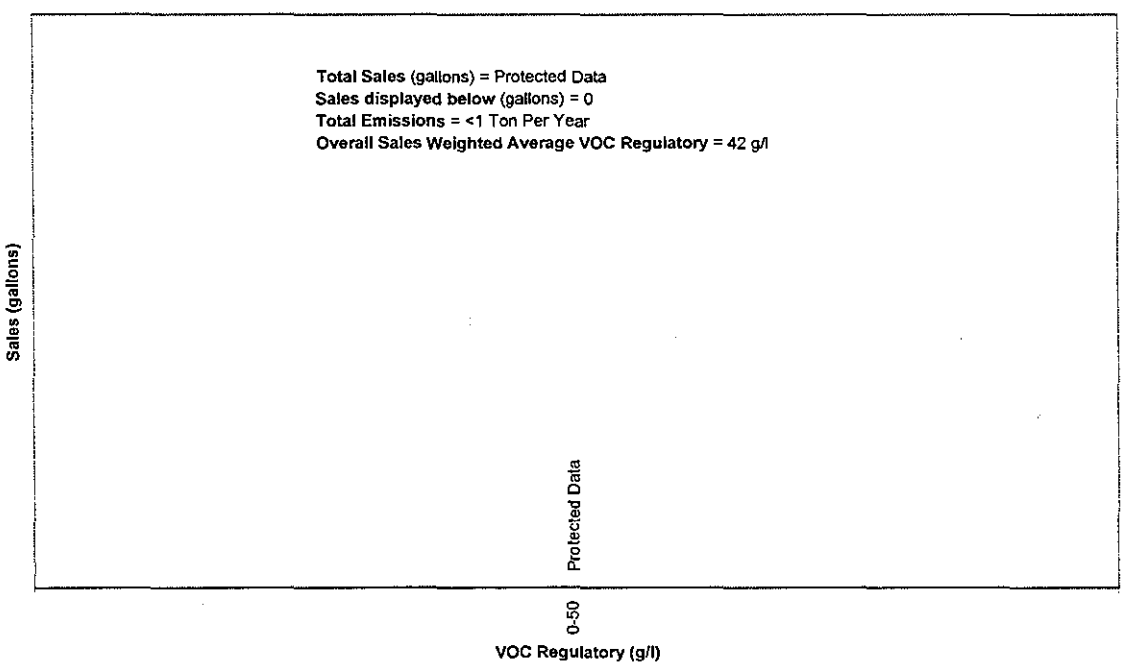


Figure 5-115
Other

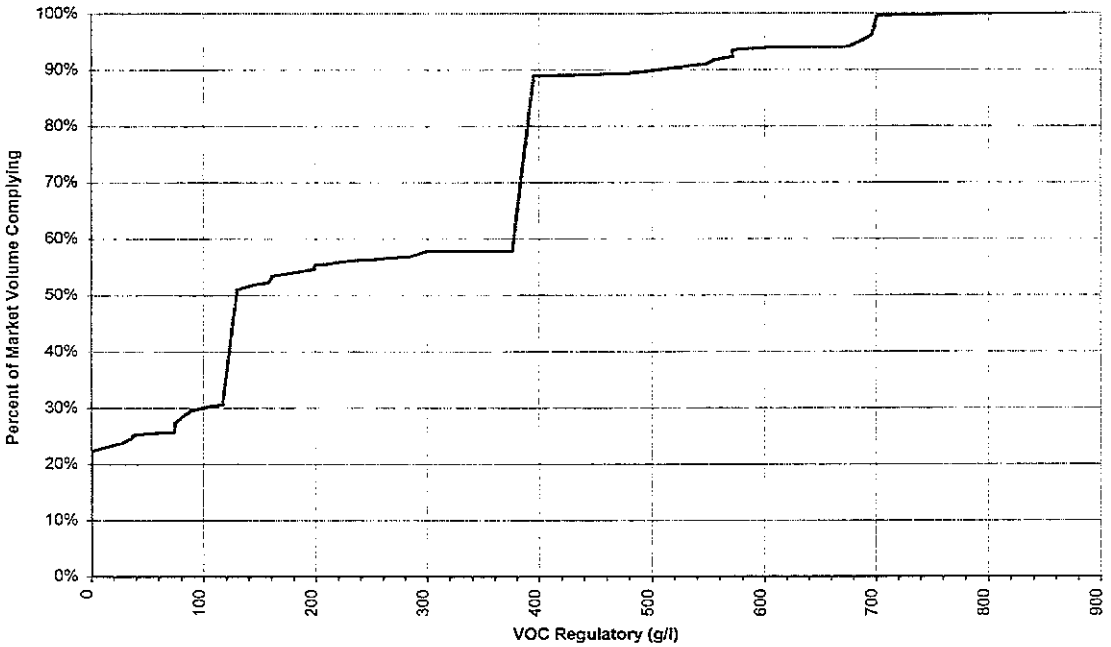
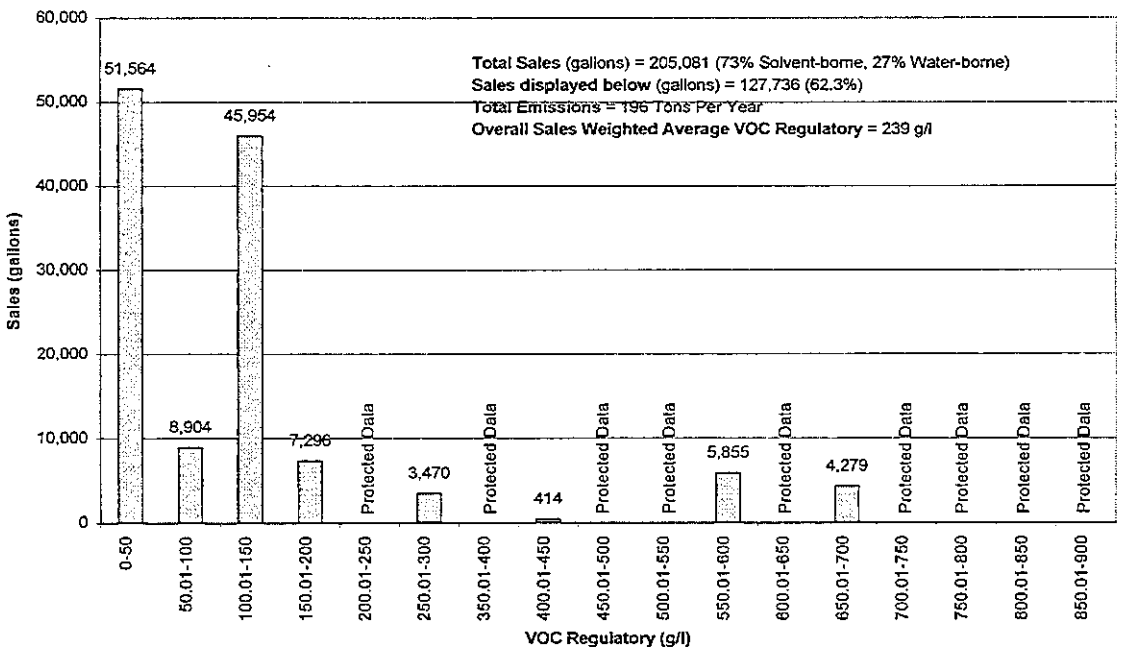


Figure 5-116
Other



Chapter 6 – Summary Table

Table 6-1 represents a comprehensive summary of the data collected from FORM II (see Appendix A) of the 1998 Architectural Coatings Survey. Fifty-eight categories were surveyed, but only 56 are shown with California sales data. No sales data were reported for antenna and flow coating categories. Data not complying with the "Three Company Rule" were concealed using the acronym "PD" which means "Protected Data".

As seen in Table 6-1, 1996 coating sales in California totaled 87.5 million gallons, with 82 percent of the sales being water-borne and 18 percent being solvent-borne. Total emissions were 36,300 Tons Per Year (TPY) or 100 Tons Per Day (TPD), with solvent-borne coatings accounting for 61 percent and water-borne coatings accounting for 39 percent. Individual values for sale volumes and emissions are provided for each coating category.

Table 6-1 begins on page 86 with category breakdowns of total sales. Page 87 contains category breakdowns of VOC contents for each category as sales weighted averages (SWA). Table 6-1 concludes on page 88 with percent by volume solids (SWA), density (SWA), and emissions in Tons Per Day. The emission values presented in Table 6-1 do not include emissions from thinning and clean-up.

Table 6-1
1998 Architectural Coatings Survey Summary (1996 Sales Data)

Category	Description	Total Sales (gals)	SB Sales (gals)	WB Sales (gals)	% SB (gals)	% WB (gals)	% Interior (gals)	% Exterior (gals)	% Dual (gals)
1	Antenna	NO DATA SUBMITTED							
2	Anti-fouling	PD	PD	0	100	0	0	100	0
3	Anti-graffiti	2,573	PD	PD	PD	PD	0	27	73
4	Bituminous	4,919,627	1,295,827	3,623,800	26	74	0	92	8
5	Bond breakers	PD	PD	PD	<1	100	0	100	0
6	Chalkboard resurfacers	PD	0	PD	0	100	100	0	0
7	Concrete curing compounds	411,118	11,820	399,298	3	97	0	0	100
8	Dry Fog	202,902	76,661	126,241	38	62	98	0	2
9	Extreme high durability	21,855	21,855	0	100	0	0	0	100
10	Fire retardant - clear	PD	0	PD	0	100	96	4	0
11	Fire retardant - opaque	56,209	10,297	45,912	18	82	6	94	0
12	Flats	31,828,705	27,837	31,800,868	0	100	41	30	29
13	Floor	1,150,961	493,568	657,393	43	57	19	6	75
14	Flow	NO DATA SUBMITTED							
15	Form release	83,243	11,025	72,218	13	87	0	<1	100
16	Graphic arts (sign)	40,366	PD	PD	PD	PD	10	19	71
17	Heat reactive	PD	PD	0	100	0	0	0	100
18	High temperature	23,014	22,839	175	99	1	1	27	72
19	Industrial maintenance	4,281,466	3,902,392	379,074	91	9	4	12	84
20	Lacquer - clear	464,214	445,448	16,766	96	4	100	0	0
21	Lacquer - opaque	207,403	180,490	26,913	87	13	98	0	2
22	Magnesite cement	37,501	PD	PD	PD	PD	0	20	80
23	Mastic texture	299,727	PD	PD	PD	PD	10	73	17
24	Metallic pigmented	392,827	272,965	119,862	69	31	0	91	9
25	Multi color	40,224	PD	PD	PD	PD	54	0	46
26	Nonflats - high gloss	2,150,818	532,033	1,618,786	25	75	36	15	48
27	Nonflats - medium gloss	15,629,792	522,186	15,107,606	3	97	48	11	40
28	Nonflats - low gloss	4,475,094	34,373	4,440,720	1	99	44	23	32
29	Nuclear	697	PD	PD	PD	PD	3	81	16
30	Pre-treatment wash primer	71,940	PD	PD	PD	PD	0	0	100
31	Primers, Sealers, and Undercoaters	5,960,907	1,515,383	4,445,524	25	75	41	30	29
32	Quick dry - Enamels	904,739	904,739	0	100	NA	22	4	74
33	Quick dry - Primers, Sealers, and Undercoaters	1,912,915	1,076,267	836,648	56	44	65	8	27
34	Repair and maintenance thermoplastic	PD	PD	PD	100	<1	<1	0	100
35	Roof	2,909,432	116,174	2,793,258	4	96	0	100	<1
36	Rust preventative	63,099	PD	PD	PD	PD	35	1	64
37	Sanding sealers	115,933	110,767	5,166	96	4	95	<1	4
38	Sealers	301,970	57,890	244,080	19	81	61	26	14
39	Shellacs - clear	PD	PD	0	100	0	100	0	0
40	Shellacs - opaque	PD	PD	0	100	0	10	0	90
41	Stains - clear	173,109	98,297	74,812	57	43	31	58	9
42	Stains - semitransparent	1,268,677	909,385	359,292	72	28	32	50	18
43	Stains - opaque	1,519,190	127,373	1,391,817	8	92	<1	99	0
44	Stains - lows solids	PD	0	PD	0	100	0	100	0
45	Swimming pool - general	3,492	PD	PD	PD	PD	0	50	50
46	Swimming pool - repair	12,774	12,774	0	100	0	0	99	1
47	Thermoplastic rubber and mastics	PD	PD	PD	<1	100	0	100	0
48	Traffic	2,883,370	885,126	1,998,244	31	69	0	99	1
49	Varnish - clear	617,428	445,397	172,031	72	28	75	13	11
50	Varnish - semitransparent	162,209	100,292	61,917	62	38	92	7	<1
51	Waterproofing sealers - clear	972,136	568,589	403,546	58	42	1	93	6
52	Waterproofing sealers - opaque	97,871	47,767	50,104	49	51	<1	10	90
53	Wood preservatives - below ground	3,549	PD	PD	PD	PD	0	100	0
54	Wood preservatives - clear	224,242	157,119	67,123	70	30	0	85	15
55	Wood preservatives - semitransparent	145,920	138,757	7,163	95	5	0	30	70
56	Wood preservatives - opaque	PD	PD	PD	2	98	0	100	0
57	Wood preservatives - low solids	PD	0	PD	0	100	0	100	0
58	Other	205,081	149,950	55,131	73	27	10	34	56
	Other* (Aggregated categories not shown above)	245,322	402,335	408,156	NA	NA	NA	NA	NA
	Total (where applicable)	87,495,639	15,685,996	71,809,644					

Legend:

PD = Protected Data	SB = Solvent-borne	VOC reg = VOC Regulatory
NA = Not Applicable	WB = Water-borne	VOC act = VOC Actual
* = Sum of SB & WB does not equal total	SWA = Sales Weighted Average	

Table 6-1 Continued

1998 Architectural Coatings Survey Summary (1996 Sales Data)

Category	Description	Overall SWA VOC reg (g/l)	SWA SB VOC reg (g/l)	SWA WB VOC reg (g/l)	SWA SB VOC act (g/l)	SWA WB VOC act (g/l)	SWA Interior VOC reg (g/l)	SWA Exterior VOC reg (g/l)	SWA Dual VOC reg (g/l)
1	Antenna	NO DATA SUBMITTED							
2	Anti-fouling	351	351	NA	PD	NA	NA	351	NA
3	Anti-graffiti	225	605	92	PD	PD	NA	409	157
4	Bituminous	47	225	3	222	2	NA	48	35
5	Bond breakers	345	750	345	PD	PD	NA	345	750
6	Chalkboard resurfacers	220	NA	220	NA	115	220	NA	NA
7	Concrete curing compounds	195	677	180	677	78	NA	NA	195
8	Dry Fog	252	367	182	354	114	251	NA	244
9	Extreme high durability	389	390	NA	390	NA	NA	NA	389
10	Fire retardant - clear	22	NA	22	NA	18	23	0	NA
11	Fire retardant - opaque	86	267	46	267	30	30	89	400
12	Flats	98	373	98	372	40	83	105	111
13	Floor	157	197	164	196	79	109	207	165
14	Flow	NO DATA SUBMITTED							
15	Form release	34	247	2	247	2	NA	725	34
16	Graphic arts (sign)	122	628	10	PD	4	33	625	2
17	Heat reactive	378	378	NA	337	NA	NA	NA	378
18	High temperature	366	367	222	365	98	314	511	312
19	Industrial maintenance	300	321	170	320	84	169	304	306
20	Lacquer - clear	649	665	220	645	97	650	678	233
21	Lacquer - opaque	545	603	157	594	82	550	NA	242
22	Magnesite cement	589	590	0	PD	PD	NA	618	582
23	Mastic texture	118	223	79	PD	PD	21	127	134
24	Metallic pigmented	358	456	137	450	49	684	361	323
25	Multi color	263	520	268	PD	PD	337	NA	177
26	Nonflats - high gloss	248	366	209	366	93	194	305	266
27	Nonflats - medium gloss	155	287	151	287	61	151	142	163
28	Nonflats - low gloss	134	341	133	341	59	146	108	135
29	Nuclear	50	248	46	PD	PD	69	46	69
30	Pre-treatment wash primer	252	716	248	PD	PD	785	596	252
31	Primers, Sealers, and Undercoaters	170	358	106	345	41	131	201	191
32	Quick dry - Enamels	403	403	NA	393	NA	398	392	406
33	Quick dry - Primers, Sealers, and Undercoaters	303	432	136	429	70	307	137	338
34	Repair and maintenance thermoplastic	1	<1	159	PD	PD	159	NA	<1
35	Roof	23	259	13	256	6	NA	23	323
36	Rust preventative	371	382	144	PD	PD	404	326	353
37	Sanding sealers	648	665	281	662	61	664	555	290
38	Sealers	156	422	96	422	28	71	372	133
39	Shellacs - clear	614	614	NA	PD	NA	614	NA	NA
40	Shellacs - opaque	534	534	NA	PD	NA	510	NA	537
41	Stains - clear	285	407	124	407	21	282	301	203
42	Stains - semitransparent	401	453	267	452	114	543	334	331
43	Stains - opaque	157	370	138	368	56	711	157	NA
44	Stains - lows solids	77	NA	77	NA	PD	NA	77	NA
45	Swimming pool - general	406	438	147	PD	PD	NA	563	247
46	Swimming pool - repair	569	569	NA	569	NA	NA	569	530
47	Thermoplastic rubber and mastics	75	492	75	PD	PD	NA	75	NA
48	Traffic	154	290	124	256	74	287	155	121
49	Varnish - clear	406	463	260	462	102	418	393	339
50	Varnish - semitransparent	396	459	296	459	118	396	394	529
51	Waterproofing sealers - clear	347	360	330	360	57	329	350	301
52	Waterproofing sealers - opaque	219	330	124	330	70	160	38	239
53	Wood preservatives - below ground	352	352	350	PD	PD	NA	352	NA
54	Wood preservatives - clear	129	142	102	142	44	NA	75	423
55	Wood preservatives - semitransparent	382	390	218	390	43	NA	247	439
56	Wood preservatives - opaque	140	658	132	658	45	NA	140	NA
57	Wood preservatives - low solids	42	NA	42	NA	PD	NA	42	NA
58	Other	239	304	62	341	26	389	131	278
	Other* (Aggregated categories not shown above)	NA	NA	NA	NA	NA	NA	NA	NA
	Total (where applicable)								

Table 6-1 Continued

1998 Architectural Coatings Survey Summary (1996 Sales Data)

Category	Description	SWA SB % by Volume Solids	SWA WB % by Volume Solids	SWA Density SB (g/l)	SWA Density WB (g/l)	SB Emissions (TPY)	WB Emissions (TPY)	Total Emissions (TPY)
1	Antenna	NO DATA SUBMITTED						
2	Anti-fouling	59	NA	1,994	NA	2	0	2
3	Anti-graffiti	32	26	977	989	2	<1	2
4	Bituminous	74	47	1,061	1,098	919	25	944
5	Bond breakers	1	11	754	968	<1	12	12
6	Chalkboard resurfacers	NA	41	NA	1,140	0	<1	<1
7	Concrete curing compounds	20	22	878	1,019	33	129	163
8	Dry Fog	51	36	1,343	1,316	113	60	173
9	Extreme high durability	51	NA	1,198	NA	35	0	35
10	Fire retardant - clear	NA	42	NA	1,454	0	<1	<1
11	Fire retardant - opaque	72	56	1,221	1,386	11	6	17
12	Flats	51	35	1,369	1,334	43	5,267	5,310
13	Floor	77	34	1,133	1,188	305	216	522
14	Flow	NO DATA SUBMITTED						
15	Form release	12	0	960	927	11	<1	12
16	Graphic arts (sign)	20	35	986	1,070	20	<1	20
17	Heat reactive	46	NA	1,237	NA	1	0	1
18	High temperature	57	33	1,336	6,226	35	<1	35
19	Industrial maintenance	62	35	1,279	1,303	5,070	132	5,203
20	Lacquer - clear	20	31	919	1,046	1,200	7	1,207
21	Lacquer - opaque	25	36	1,055	1,192	447	9	456
22	Magnesite cement	27	4	896	1,010	92	<1	92
23	Mastic texture	53	51	722	1,354	55	43	98
24	Metallic pigmented	45	31	1,565	2,161	513	25	538
25	Multi color	27	28	1,144	1,067	3	24	27
26	Nonflats - high gloss	53	35	1,079	1,152	813	626	1,439
27	Nonflats - medium gloss	64	36	1,218	1,188	625	3,852	4,477
28	Nonflats - low gloss	56	36	1,242	1,233	49	1,096	1,145
29	Nuclear	49	38	2,118	1,140	<1	<1	<1
30	Pre-treatment wash primer	10	49	876	1,204	2	29	31
31	Primers, Sealers, and Undercoaters	52	32	1,277	1,262	2,161	766	2,927
32	Quick dry - Enamels	50	NA	1,117	NA	1,485	0	1,485
33	Quick dry - Primers, Sealers, and Undercoaters	45	41	1,195	1,241	1,929	243	2,172
34	Repair and maintenance thermoplastic	100	35	1,075	1,396	<1	<1	<1
35	Roof	67	44	1,137	1,276	124	73	197
36	Rust preventative	48	39	1,284	1,255	96	1	97
37	Sanding sealers	19	16	862	1,022	306	1	307
38	Sealers	36	30	885	1,074	99	28	128
39	Shellacs - clear	26	NA	907	NA	75	0	75
40	Shellacs - opaque	31	NA	1,197	NA	271	0	271
41	Stains - clear	48	17	862	1,015	167	7	174
42	Stains - semitransparent	42	25	920	1,084	1,716	171	1,887
43	Stains - opaque	52	34	1,147	1,231	196	327	522
44	Stains - lows solids	NA	8	NA	1,020	0	3	3
45	Swimming pool - general	49	47	1,480	1,598	6	<1	6
46	Swimming pool - repair	29	NA	1,177	NA	30	0	30
47	Thermoplastic rubber and mastics	44	49	931	1,271	<1	1	1
48	Traffic	51	56	1,371	1,399	723	616	1,340
49	Varnish - clear	43	29	901	1,047	859	73	932
50	Varnish - semitransparent	43	29	916	1,032	192	31	222
51	Waterproofing sealers - clear	54	11	901	1,028	852	96	948
52	Waterproofing sealers - opaque	43	48	1,208	1,306	63	15	78
53	Wood preservatives - below ground	55	10	850	1,070	4	1	5
54	Wood preservatives - clear	84	47	864	1,247	93	12	105
55	Wood preservatives - semitransparent	56	16	876	1,021	226	1	227
56	Wood preservatives - opaque	17	28	820	1,185	<1	<1	<1
57	Wood preservatives - low solids	NA	7	NA	1,067	0	1	1
58	Other	57	35	1,039	1,175	190	6	196
	Other* (Aggregated categories not shown above)	NA	NA	NA	NA	<1	4	<1
	Total (where applicable)					22,265	14,036	36,300

Chapter 7 - Speciation Profiles

The 1998 Architectural Coatings Survey, in contrast to past surveys, collected ingredient data in addition to sales and VOC content information for the 58 coating categories. We received data representing over 3,000 distinct ingredients. Listing all the ingredients was considered impractical and not consistent with our effort to maintain confidentiality. To maintain confidentiality three or more companies ("Three Company Rule") must be using the ingredients shown in Tables 7-1, 7-2, and 7-3. Given the magnitude of ingredient data, like compounds were aggregated under common names and all the ingredients are ranked in descending order by mass. Table 7-1 summarizes ingredients in architectural coatings overall, while Tables 7-2 and 7-3 provide the ingredients in solvent-borne and water-borne coatings respectively. While it was our intent to provide species profiles by category, it was determined that this approach limited our ability to display as much of the data as possible while maintaining confidentiality.

The survey questionnaire (see Appendix A) provided two options for reporting ingredient information. Respondents could choose to use survey Form III, which required a listing of all coating ingredients that individually amount to 1.0% or greater by weight of the final product. Remaining ingredients that individually accounted for less than 1.0% of the final product would be aggregated under "Aggregated Ingredients <1.0%." Survey Form IV provided an abbreviated approach to Form III in which the respondent would identify VOCs and Exempt Compounds only that individually amount to 1.0% or greater by weight of the final product. Any VOCs or Exempt Compounds that individually accounted for less than 1.0% of the final product could be aggregated. Remaining ingredients were entered under "All Other". Approximately one-third of the survey respondents used survey Form III, while the rest used survey Form IV. Tables 7-1, 7-2, and 7-3 represent both survey Forms III and IV.

Since Tables 7-1 through 7-3 reflect both survey Forms III and IV, features of both Forms are present. For example, "All Other", a feature of survey Form IV, and "Aggregated Ingredients <1.0%" a feature of Form III, both appear in all three tables. In all these tables, ingredient data not being used by three or more companies were aggregated under "Aggregated Protected Data".

The Air Resources Board plans to use these species profiles in our ongoing effort to examine the future potential of reactivity based standards for architectural coatings. These profiles will also aid our emission modeling programs, which take into account photochemical reactivity. We consider the information contained in Tables 7-1, 7-2, and 7-3 to be simply a snapshot of what was reported in the 1998 survey questionnaire, and we will continue to refine and update these data. We have not categorized the compounds as VOCs, non-VOCs, or solids, in order to allow the public to see the most data possible.

Table 7-1
Architectural Coatings Speciation Profile – Overall
(Ranked by Mass)

Item #	Name
1	All Other
2	water
3	Aggregated Protected Data
4	calcium carbonate
5	titanium dioxide
6	medium aliphatic solvent naphtha
7	asphalt fumes (petroleum)
8	2,2,4-trimethyl-1,3-pentanediol isobutyrate
9	propylene glycol
10	stoddard solvent
11	ethylene glycol
12	talc
13	Aggregated VOCs < 1.0%
14	vm & painters naphtha
15	epon 1001 resin
16	petroleum naphtha, heavy alkylate
17	xylenes
18	aromatic 100
19	kaolin
20	distillate(petroleum), hydrotreated light
21	Aggregate Ingredients < 1.0%
22	toluene
23	2-propenoic acid, butyl ester, polymer with ethenyl acetate
24	methyl ethyl ketone
25	2-(2-butoxyethoxy)ethanol
26	sand
27	limestone
28	ethyl alcohol
29	butyl acetate
30	methanol
31	1,1,1-trichloroethane
32	hydrotreated heavy naphtha
33	vinyl acetate
34	kerosene
35	petroleum ether
36	oil of linseed
37	aluminum silicate
38	fibrous glass filter media
39	2-propanol
40	2-butoxy ethanol
41	naphtha, petroleum, light steam-cracked arom., piperylene conc., polymd.
42	isobutyl acetate
43	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane homopolymer
44	1,3,4-trimethylbenzene
45	acetone
46	methyl n-amyl ketone
47	attapulgite
48	2-(2-methoxyethoxy)ethanol
49	n-butanol
50	diatomaceous earth
51	methyl isobutyl ketone
52	propylene gylcol monomethyl
53	solvent-refined heavy paraffinic distillate
54	chlorinated paraffin
55	silica (crystalline-cristobalite)
56	iodopropynyl butylcarbamate
57	dipropylene glycol methyl ether
58	zinc oxide
59	ethyl benzene
60	mica
61	naphtha
62	diatomaceous silica, flux-calcined
63	heavy aromatic naphtha solvent
64	chlorafin
65	ammonium hydroxide
66	amorphous silica
67	2,2'-oxybisethanol
68	Volatile Methyl Siloxanes
69	aqualyte (TM), LSC cocktail
70	ethyl 3-ethoxypropionate
71	2-propoxyethanol
72	styrene
73	ammonia
74	isobutyl isobutyrate
75	dipropylene glycol
76	sodium silicoaluminate
77	aluminum
78	wollastonite
79	propylene glycol monomethyl ether acetate
80	meta-xylene
81	polypropylene glycol
82	barium boron oxide
83	mesitylene
84	2-amino-2-methyl-1-propanol
85	butene, homopolymer
86	hydroxyethyl cellulose
87	2-methyl-1-propanol
88	2-(2-butoxyethoxy)ethyl acetate
89	aluminum oxide
90	1,6-hexamethylene diisocyanate homopolymer
91	barium sulfate
92	2-methyl-2,4-pentanediol
93	triethylenetetramine

Table 7-1 Continued

Item #	Name
94	solvent naphtha, petroleum, heavy aliph.
95	2-propanol, 1-(2-butoxy-1-methylethoxy)-
96	benzyl alcohol
97	2-pentanone
98	ferric oxide
99	pine oil
100	carbon black
101	ethyl methyl ketone oxime
102	collodion
103	phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]
104	1-methyl-2-pyrrolidinone
105	isophorone diamine
106	Triton(R) X-100
107	tung oil
108	zinc phosphate
109	heavy straight-run naphtha
110	portland cement
111	Magnesium Aluminum Silicate
112	2-methoxy-1-propanol acetate
113	4-chlorobenzotrifluoride
114	butyl benzyl phthalate
115	ethylmethylbenzene
116	stearic acid
117	2-butoxyethyl acetate
118	sec-butyl alcohol
119	propylene glycol monopropyl ether
120	zirconium 2-ehtylhexanoate
121	4-nonylphenol (branched)
122	propylene carbonate
123	1-butoxy-2-propanol
124	epikote 862
125	scintillation surfactant
126	hexane
127	n-heptane
128	methylene diphenyl diisocyanate
129	aluminum hydroxide
130	iron oxide
131	2-(2-ethoxyethoxy)ethanol
132	triphosphoric acid, pentapotassium salt
133	ethyl acetate
134	methyl methacrylate
135	naphthalene
136	amyl acetate
137	styrene-butadiene copolymers
138	cyclohexanone
139	4-hydroxy-4-methyl-2-pentanone
140	tergitol np-33
141	chlorothalonil
142	silicon dioxide, amorphous
143	1-butanol, 2-methyl-, acetate
144	triethanolamine
145	limonene
146	vinyl toluene
147	tri(butyl cellosolve) phosphate
148	2-ethoxyethyl acetate
149	troysan 174
150	cumene
151	2,4-pentanedione
152	paraffin
153	cobalt 2-ethylhexanoate
154	zinc
155	Aggregated Exempt Compounds <1.0%
156	tetraethyl orthosilicate
157	methyl isobutyl carbinol
158	castor oil
159	n-propyl acetate
160	sodium polyacrylate
161	dibutyl phthalate
162	formaldehyde
163	n-propanol
164	siloxanes and silicones, di-me, reaction products with silica
165	n,n-dimethylethanolamine
166	poloxanlene
167	quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite
168	triethyl amine
169	soybean lecithin
170	cellulose
171	tris(dimethylaminomethyl)phenol
172	calcium 2-ethylhexanoate
173	di-sec-octyl phthalate
174	di-n-butyltin dilaurate
175	acetic acid
176	polyethylene
177	aluminum phospate
178	2,6-dimethyl-4-heptanone
179	Zinc Chromate
180	silica, amorphous
181	phosphoric acid
182	furfuryl alcohol
183	C.I. pigment yellow 42
184	2-ethyl-1-hexanol
185	2-phenoxyethanol
186	tetraethylenepentamine

Table 7-2
Architectural Coatings Speciation Profile - Solvent-borne
(Ranked by Mass)

Item #	Name
1	All Other
2	Aggregated Protected Data
3	medium aliphatic solvent naphtha
4	stoddard solvent
5	calcium carbonate
6	talc
7	vm & painters naphtha
8	epon 1001 resin
9	titanium dioxide
10	petroleum naphtha, heavy alkylate
11	xylenes
12	aromatic 100
13	toluene
14	distillate(petroleum), hydrotreated light
15	water
16	methyl ethyl ketone
17	sand
18	ethyl alcohol
19	butyl acetate
20	Aggregated VOCs < 1.0%
21	1,1,1-trichloroethane
22	hydrotreated heavy naphtha
23	kerosene
24	petroleum ether
25	oil of linseed
26	fibrous glass filter media
27	2-propanol
28	naphtha, petroleum, light steam-cracked arom., piperylene conc., polymd.
29	isobutyl acetate
30	acetone
31	1,3,4-trimethylbenzene
32	methyl n-amyl ketone
33	attapulgite
34	Aggregate Ingredients < 1.0%
35	limestone
36	methyl isobutyl ketone
37	n-butanol
38	2-butoxy ethanol
40	propylene gylcol monomethyl
41	kaolin
42	chlorinated paraffin
43	asphalt fumes (petroleum)
44	ethyl benzene
45	naphtha
46	heavy aromatic naphtha solvent
47	chlorafin
49	ethyl 3-ethoxypropionate
50	aqualyte (TM), LSC cocktail
51	isobutyl isobutyrate
52	propylene glycol monomethyl ether acetate
53	aluminum silicate
54	mesitylene
55	2-methyl-1-propanol
56	butene, homopolymer
57	mica
58	aluminum oxide
60	1,6-hexamethylene diisocyanate homopolymer
61	methanol
62	diatomaceous silica, flux-calcined
63	triethylenetetramine
64	meta-xylene
65	solvent naphtha, petroleum, heavy aliph.
66	benzyl alcohol
67	amorphous silica
68	2-pentanone
69	barium sulfate
70	2-propoxyethanol
71	ferric oxide
72	pine oil
73	carbon black
74	collodion
75	phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]
76	ethyl methyl ketone oxime
77	isophorone diamine
78	tung oil
79	zinc phosphate
80	portland cement
81	heavy straight-run naphtha
82	styrene
83	2-methoxy-1-propanol acetate
84	ethylmethylbenzene
85	2-butoxyethyl acetate
86	zinc oxide
87	2,2,4-trimethyl-1,3-pentanediol isobutyrate
88	2,2'-oxybisethanol
89	zirconium 2-ehtylhexanoate
90	dipropylene glycol methyl ether
91	4-nonylphenol (branched)
92	propylene carbonate
93	epikote 862
94	aluminum
95	n-heptane

Table 7-2 Continued

Item #	Name
96	barium boron oxide
97	methylene diphenyl diisocyanate
98	aluminum hydroxide
99	ethyl acetate
100	naphthalene
101	amyl acetate
102	cyclohexanone
103	magnesium aluminum silicate
104	silicon dioxide, amorphous
105	1-butanol, 2-methyl-, acetate
106	4-hydroxy-4-methyl-2-pentanone
107	iron oxide
108	2-(2-butoxyethoxy)ethanol
109	ethylene glycol
110	limonene
111	vinyl toluene
112	2-ethoxyethyl acetate
113	cumene
114	2,4-pentanedione
115	wollastonite
116	propylene glycol monopropyl ether
117	propylene glycol
118	paraffin
119	2-(2-methoxyethoxy)ethanol
120	zinc
121	cobalt 2-ethylhexanoate
122	methyl isobutyl carbinol
123	castor oil
124	n-propyl acetate
125	tetraethyl orthosilicate
126	n-propanol
127	Volatile Methyl Siloxanes
129	sodium silicoaluminate
130	Aggregated Exempt Compounds <1.0%
131	soybean lecithin
132	tris(dimethylaminomethyl)phenol
133	calcium 2-ethylhexanoate
134	di-sec-octyl phthalate
135	di-n-butyltin dilaurate
136	2,6-dimethyl-4-heptanone
137	Zinc Chromate
138	hexane
139	phosphoric acid
140	furfuryl alcohol
141	2-methyl-2,4-pentanediol
142	silica, amorphous
143	solvent-refined heavy paraffinic distillate
144	C.I. pigment yellow 42
145	aluminum phospate
146	2-ethyl-1-hexanol

Table 7-3
Architectural Coatings Speciation Profile - Water-borne
(Ranked by Mass)

Item #	Name
1	water
2	All Other
3	Aggregated Protected Data
4	calcium carbonate
5	titanium dioxide
6	2,2,4-trimethyl-1,3-pentanediol isobutyrate
7	asphalt fumes (petroleum)
8	propylene glycol
9	ethylene glycol
10	Aggregated VOCs < 1.0%
11	kaolin
12	Aggregate Ingredients <1.0%
13	2-propenoic acid, butyl ester, polymer with ethenyl acetate
14	2-(2-butoxyethoxy)ethanol
15	talc
16	methanol
17	limestone
18	vinyl acetate
19	medium aliphatic solvent naphtha
20	aluminum silicate
21	distillate(petroleum), hydrotreated light
22	2-(2-methoxyethoxy)ethanol
23	diatomaceous earth
24	2-butoxy ethanol
25	solvent-refined heavy paraffinic distillate
26	silica (crystalline-cristobalite)
27	iodopropynyl butylcarbamate
28	dipropylene glycol methyl ether
29	zinc oxide
30	sand
31	ammonium hydroxide
32	mica
33	2,2'-oxybisethanol
34	Volatile Methyl Siloxanes
35	diatomaceous silica, flux-calcined
36	ammonia
37	amorphous silica
38	dipropylene glycol
39	stoddard solvent
40	sodium silicoaluminate
41	wollastonite
42	2-propoxyethanol
43	2-amino-2-methyl-1-propanol
44	hydroxyethyl cellulose
45	aromatic 100
46	barium boron oxide
47	epon 1001 resin
48	2-methyl-2,4-pentanediol
49	vm & painters naphtha
50	2-propanol, 1-(2-butoxy-1-methylethoxy)-
51	toluene
52	1-methyl-2-pyrrolidinone
53	propylene gylcol monomethyl
54	n-butanol
55	Triton(R) X-100
56	butyl benzyl phthalate
57	sec-butyl alcohol
58	2-propanol
59	magnesium aluminum silicate
60	1-butoxy-2-propanol
61	petroleum naphtha, heavy alkylate
62	barium sulfate
63	scintillation surfactant
64	propylene glycol monopropyl ether
65	triphosphoric acid, pentapotassium salt
66	2-(2-ethoxyethoxy)ethanol
67	xylenes
68	1,3,4-trimethylbenzene
69	tergitol np-33
70	triethanolamine
71	chlorothalonil
72	tri(butyl cellosolve) phosphate
73	troysan 174
74	sodium polyacrylate
75	dibutyl phthalate
76	Aggregated Exempt Compounds <1.0%
77	n,n-dimethylethanolamine
78	triethyl amine
79	ethyl alcohol
80	zinc phosphate
81	heavy aromatic naphtha solvent
82	acetic acid
83	aluminum phospate
84	carbon black
85	2-ethyl-1-hexanol
86	benzyl alcohol
87	propylene glycol monomethyl ether acetate
88	2-methyl-1-propanol

Chapter 8 – 1993 / 1998 Survey Comparison

This section compares, where possible, the data from the ARB's 1993 survey of 1990 data with the 1998 survey data. Appendix B contains relevant excerpts of the 1993 survey results. Table 8-1 presents a comparison of some overall data between the two surveys. The emissions figures in this table do include emissions from thinning and clean-up, which are calculated by assuming one pint of a solvent with a density of 6.4 pounds per gallon is used per gallon of solvent-borne coatings. Using the 1998 survey data, emissions from thinning and clean-up in 1996 amount to about 17 tons of VOC per day. Using the 1993 survey data, those emissions in 1990 were about 20 tons per day.

Table 8-1
Comparison of ARB's 1998 and 1993
Overall Architectural Coatings Survey Data

	1993 Survey (1990 Sales)		1998 Survey (1996 Sales)		Percent Change	
Total volume reported (gallons)	77.1 million		87.5 million		+13.5%	
Water-borne/solvent-borne split by volume	76%	24%	82%	18%	+22.4	-14.9
Total estimated annual average emissions[1]	126 TPD[2]		117 TPD		-7.2%	
Water-borne/solvent-borne split by emissions[1]	28%	72%	33%	67%	+9.4	-13.6
Volume per capita (gallons per capita)	2.6		2.7		+3.9%	
Emissions per capita[1] (pounds per capita)	3.1		2.6		-16.1%	

1 *These emission estimates include emissions from thinning and clean-up.*
2 *This is a 1990 value. For comparison purposes, ARB's emissions inventory estimates emissions of 128 TPD in 1996.*

Tables 8-2, 8-3, and 8-4 are a detailed comparison of sales, emissions, and sales-weighted average $VOC_{regulatory}$ contents from the 1993 and 1998 surveys by category. Data not complying with the "Three Company Rule" have been excluded.

Table 8-2

COMPARISON OF 1993 AND 1998 ARCHITECTURAL COATINGS SURVEYS (1)

Category	Overall Totals								
	Volume (gallons)			Emissions (tons per year)			Sales Weighted Average VOC regulatory		
	1993	1998	% Change	1993	1998	% Change	1993	1998	% Change
Anti-graffiti	38,000	2,500	-93	14	2	-86	135	225	67
Concrete curing compounds	197,000	411,000	109	112	163	46	217	195	-10
Dry fog	105,000	203,000	93	130	173	33	320	252	-21
Fire retardant, opaque	23,000	56,200	144	25	17	-32	267	86	-68
Flats	32,177,000	31,829,000	-1	5,977	5,310	-11	105	98	-7
Form release	10,000	83,000	730	16	12	-25	595	34	-94
Graphic arts (sign)	533,000	40,000	-92	905	20	-98	409	122	-70
High temperature	13,000	23,000	77	30	35	17	539	366	-32
Industrial maintenance	3,078,000	4,281,000	39	4,398	5,203	18	361	300	-17
Lacquer, clear and opaque	893,000	670,000	-25	2,366	1,663	-30	648	617	-5
Mastic texture	775,000	300,000	-61	245	98	-60	129	118	-9
Metallic pigmented	366,000	393,000	7	694	538	-22	456	358	-22
Nonflats, high gloss	2,017,000	2,151,000	7	2,015	1,439	-29	301	248	-18
Nonflats, medium gloss	14,116,000	15,630,000	11	5,422	4,477	-17	176	155	-12
Nonflats, low gloss	3,061,000	4,475,000	46	932	1,145	23	161	134	-17
Pre-treatment wash primer	21,000	72,000	243	58	31	-47	733	252	-66
Primers, sealers, & undercoaters (2)	5,788,000	6,263,000	8	3,233	3,055	-6	199	169	-15
Quick dry enamels	484,000	905,000	87	808	1,485	84	401	403	0
Quick dry primers, sealers, & undercoaters	377,000	1,913,000	407	454	2,172	378	340	303	-11
Roof	1,982,000	2,909,000	47	880	197	-78	128	23	-82
Sanding sealers	387,000	116,000	-70	1,051	307	-71	658	648	-2
Stains, clear and semitransparent	1,736,000	1,442,000	-17	2,211	2,061	-7	375	387	3
Stains, opaque	1,785,000	1,519,000	-15	767	522	-32	171	157	-8
Swimming pool, general	3,000	3,500	17	8	6	-25	572	406	-29
Traffic	4,237,000	2,883,000	-32	1,901	1,340	-30	129	154	19
Varnish, clear and semitransparent	861,000	780,000	-9	1,482	1,154	-22	422	404	-4
Waterproofing sealers, clear	950,000	972,000	2	1,184	948	-20	345	347	1
Waterproofing sealers, opaque	74,000	98,000	32	94	78	-17	311	219	-30
Wood preservatives, below ground	37,000	3,500	-91	58	5	-91	377	352	-7
Wood preservatives, clear & semitransparent	264,000	370,000	40	359	332	-8	356	229	-36
Other Aggregated Specialty Categories (3, 4)	192,000	423,000	120	411	647	57	566	416	-27
Other (5)	473,000	205,000	-57	378	196	-48	223	239	7
Other Large Categories Unique to 1998 (6)	N/A	6,071,000	N/A	N/A	1,466	N/A	N/A	68	N/A
Total	77,053,000	87,496,000	14	38,618	36,297	-6			
Nonflats, combined	19,194,000	22,256,000	16	8,369	7,061	-16	187	160	-14

1 1993 survey based on 1990 sales data; 1998 survey based on 1996 sales data.

2 Primers, sealers, and undercoaters in 1998 data includes sealers.

3 Other Aggregated Specialty Categories in 1993 data includes bond breakers, clear fire retardant, magnesite cement, multi-color, opaque wood preservatives, clear shellacs, opaque shellacs, and swimming pool repair coatings.

4 Other Aggregated Specialty Categories in 1998 data includes anti-fouling, bond breakers, chalkboard resurfacers, extreme high durability, clear fire retardant, heat reactive, magnesite cement, multicolor, nuclear, repair and maintenance thermoplastic, rust preventative, clear shellacs, opaque shellacs, swimming pool repair, low solids stains, thermoplastic rubber and mastics, opaque wood preservatives, and low solids wood preservatives.

5 "Other" represents coatings that respondents could not classify according to any of the 39 or 57 coating categories surveyed in the 1993 and 1998 surveys, respectively.

6 Data aggregated for bituminous and floor coatings because these large categories are unique to the 1998 survey.

Table 8-3

COMPARISON OF 1993 AND 1998 ARCHITECTURAL COATINGS SURVEYS (1)

	Solventborne											
	Volume (gallons)			Emissions (tons per year)			Sales Weighted Average VOC regulatory			Sales Weighted Average Percent by Volume Solids		
Category	1993	1998	% Change	1993	1998	% Change	1993	1998	% Change	1993	1998	% Change
Anti-graffiti	(3)	(3)	(3)	(3)	(3)	(3)	173	605	250	81	32	-61
Concrete curing compounds	29,000	12,000	-59	94	33	-65	794	677	-15	14	20	43
Dry fog	81,000	77,000	-5	125	113	-10	392	367	-6	43	51	19
Fire retardant, opaque	16,000	10,000	-38	25	11	-56	373	267	-28	53	72	36
Flats	61,000	28,000	-54	88	43	-51	362	373	3	47	51	9
Form release	6,000	11,000	83	15	11	-27	597	247	-59	32	12	-62
Graphic arts (sign)	(3)	(3)	(3)	(3)	(3)	(3)	412	183	-55	61	77	26
High temperature	13,000	23,000	77	30	35	17	539	367	-32	37	57	56
Industrial maintenance	2,837,000	3,902,000	38	4,301	5,070	18	374	313	-16	57	63	11
Lacquer, clear and opaque	845,000	626,000	-26	2,341	1,647	-30	668	647	-3	26	21	-20
Mastic texture	(3)	(3)	(3)	(3)	(3)	(3)	274	223	-19	58	53	-9
Metallic pigmented	355,000	273,000	-23	694	513	-26	470	456	-3	53	45	-15
Nonflats, high gloss	1,330,000	532,000	-60	1,734	813	-53	348	366	5	61	53	-13
Nonflats, medium gloss	1,471,000	522,000	-65	1,723	625	-64	298	286	-4	67	64	-5
Nonflats, low gloss	94,000	34,000	-64	147	49	-67	384	341	-11	53	56	5
Pre-treatment wash primer	(3)	(3)	(3)	(3)	(3)	(3)	740	716	-3	8	10	19
Primers, sealers, & undercoaters (2)	1,871,000	1,573,000	-16	2,504	2,260	-10	371	357	-4	54	52	-5
Quick dry enamels	483,000	905,000	87	808	1,485	84	402	403	0	56	50	-10
Quick dry primers, sealers, & undercoaters	285,000	1,076,000	278	438	1,929	340	418	432	3	46	45	-3
Roof	617,000	116,000	-81	674	124	-82	263	259	-2	70	67	-4
Sanding sealers	378,000	111,000	-71	1,048	306	-71	667	665	0	23	19	-17
Shellacs, opaque	(3)	(3)	(3)	(3)	(3)	(3)	544	534	-2	34	31	-8
Stains, clear and semitransparent	1,163,000	1,008,000	-13	2,037	1,883	-8	432	449	4	44	43	-4
Stains, opaque	258,000	127,000	-51	422	196	-54	395	370	-6	51	52	2
Swimming pool, general	(3)	(3)	(3)	(3)	(3)	(3)	572	438	-23	31	49	56
Traffic	3,200,000	885,000	-72	1,563	723	-54	132	222	68	79	63	-21
Varnish, clear and semitransparent	816,000	546,000	-33	1,467	1,051	-28	434	462	7	44	43	-2
Waterproofing sealers, clear	681,000	569,000	-16	1,162	852	-27	418	360	-14	41	54	32
Waterproofing sealers, opaque	55,000	48,000	-13	92	63	-32	399	319	-20	49	45	-8
Wood preservatives, below ground	(3)	(3)	(3)	(3)	(3)	(3)	377	352	-7	51	55	7
Wood preservatives, clear & semitransparent	231,000	296,000	28	353	319	-10	367	258	-30	51	71	40
Other Aggregated Specialty Categories (4, 5)	928,100	437,000	-53	1,531	694	-55	587	480	-18	30	46	52
Other (6)	156,000	150,000	-4	322	190	-41	496	341	-31	48	57	20
Other Large Categories Unique to 1998 (7)	N/A	1,789,000	N/A	N/A	1,224	N/A	N/A	166	N/A	N/A	81	N/A
Total	18,260,000	15,686,000	-14	25,738	22,262	-14						
Nonflats, combined	2,895,000	1,088,000	-62	3,604	1,487	-59	324	327	1	64	58	-9

1 1993 survey based on 1990 sales data; 1998 survey based on 1996 sales data.

2 Primers, sealers, and undercoaters in 1998 data includes sealers.

3 Protected Data - fewer than three companies.

4 Other Aggregated Specialty Categories in 1993 data includes anti-graffiti, bond breakers, clear fire retardant, graphic arts, magnesite cement, mastic texture, multi-color, pre-treatment wash primers, below ground wood preservatives, opaque wood preservatives, clear shellacs, opaque shellacs, swimming pool, and swimming pool repair coatings.

5 Other Aggregated Specialty Categories in 1998 data includes anti-graffiti, anti-fouling, bond breakers, chalkboard resurfacers, extreme high durability, clear fire retardant, graphic arts, heat reactive, magnesite cement, mastic texture, multicolor, nuclear, pretreatment wash primers, repair and maintenance thermoplastic, rust preventative, clear shellacs,
opaque shellacs, swimming pool, swimming pool repair, low solids stains, thermoplastic rubber and mastics, below ground wood preservatives, opaque wood preservatives, and low solids wood preservatives.

6 "Other" represents coatings that respondents could not classify according to any of the 39 or 57 coating categories surveyed in the 1993 and 1998 surveys, respectively.

7 Data aggregated for bituminous and floor coatings because these large categories are unique to the 1998 survey.

Table 8-4

COMPARISON OF 1993 AND 1998 ARCHITECTURAL COATINGS SURVEYS (1)

Category	Waterborne											
	Volume (gallons)			Emissions (tons per year)			Sales Weighted Average VOC regulatory			Sales Weighted Average Percent by Volume Solids		
	1993	1998	% Change	1993	1998	% Change	1993	1998	% Change	1993	1998	% Change
Anti-graffiti	(3)	(3)	(3)	(3)	(3)	(3)	123	92	-25	52	26	-50
Concrete curing compounds	169,000	399,000	136	18	129	617	118	180	53	11	22	100
Dry fog	24,000	126,000	425	5	60	1,100	76	182	139	33	36	8
Fire retardant, opaque	7,000	46,000	557	0	6	N/A	26	46	77	46	56	22
Flats	32,116,000	31,801,000	-1	5,889	5,267	-11	105	98	-7	39	35	-10
Form release	4,000	72,000	1,700	1	0	-100	592	2	-100	2	0	-100
Graphic arts (sign)	(3)	(3)	(3)	(3)	(3)	(3)	97	10	-90	41	35	-14
Industrial maintenance	241,000	379,000	57	97	132	36	206	170	-17	38	35	-9
Lacquer, clear and opaque	48,000	44,000	-8	25	16	-36	302	181	-40	29	34	20
Mastic texture	(3)	(3)	(3)	(3)	(3)	(3)	88	79	-10	50	51	2
Metallic pigmented	11,000	120,000	991	0	25	N/A	18	137	661	56	31	-44
Nonflats, high gloss	687,000	1,619,000	136	281	626	123	211	209	-1	39	35	-11
Nonflats, medium gloss	12,645,000	15,108,000	19	3,699	3,852	4	162	151	-7	37	36	-2
Nonflats, low gloss	2,967,000	4,441,000	50	785	1,096	40	154	133	-14	37	36	-3
Pre-treatment wash primer	(3)	(3)	(3)	(3)	(3)	(3)	702	248	-65	1	49	4,800
Primers, sealers, & undercoaters (2)	3,917,000	4,690,000	20	729	794	9	117	105	-10	35	32	-9
Quick dry primers, sealers, & undercoaters	92,000	837,000	810	16	243	1,419	97	136	40	38	41	7
Roof	1,365,000	2,793,000	105	206	73	-65	67	13	-81	44	44	-1
Sanding sealers	9,000	5,000	-44	3	1	-67	294	281	-4	23	16	-29
Stains, clear and semitransparent	574,000	434,000	-24	174	178	2	258	242	-6	18	24	31
Stains, opaque	1,528,000	1,392,000	-9	345	327	-5	133	138	4	36	34	-6
Traffic	1,037,000	1,998,000	93	338	616	82	121	124	2	55	56	2
Varnish, clear and semitransparent	45,000	234,000	420	15	104	593	206	270	31	28	29	4
Waterproofing sealers, clear	268,000	404,000	51	22	96	336	158	330	109	10	11	13
Waterproofing sealers, opaque	19,000	50,000	163	2	15	650	58	124	114	47	48	3
Wood preservatives, clear & semitransparent	32,000	74,000	131	6	13	117	280	113	-60	16	44	175
Other Aggregated Specialty Categories (4, 5)	673,705	408,000	-39	167	115	-31	546	253	-54	17	20	20
Other (6)	317,000	55,000	-83	56	6	-89	88	62	-30	44	35	-20
Other Large Categories Unique to 1998 (7)	N/A	4,281,000	N/A	N/A	241	N/A	N/A	28	N/A	N/A	45	N/A
Total	58,796,000	71,810,000	22	12,879	14,031	9						
Nonflats, combined	16,299,000	21,168,000	30	4,765	5,574	17	163	152	-7	37	36	-3

1 1993 survey based on 1990 sales data; 1998 survey based on 1996 sales data.

2 Primers, sealers, and undercoaters in 1998 data includes sealers.

3 Protected Data - fewer than three companies.

4 Other Aggregated Specialty Categories in 1993 data includes anti-graffiti, bond breakers, clear fire retardant, graphic arts, magnesite cement, mastic texture, multi-color, quick-dry enamels, clear shellacs, opaque shellacs, swimming pool, swimming pool repair, below ground wood preservatives, and opaque wood preservatives.

5 Other Aggregated Specialty Categories in 1998 data includes anti-fouling, anti-graffiti, bond breakers, chalkboard resurfacers, extreme high durability, clear fire retardant, graphic arts, heat reactive, magnesite cement, mastic texture,
multicolor, nuclear, quick-dry enamels, repair and maintenance thermoplastic, rust preventative, clear shellacs, opaque shellacs, swimming pool, swimming pool repair, low solids stains, thermoplastic rubber and mastics, below ground wood preservatives, opaque wood preservatives, and low solids wood preservatives.

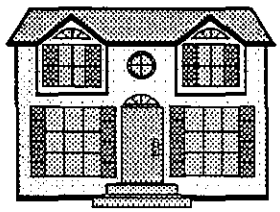
6 "Other" represents coatings that respondents could not classify according to any of the 39 or 57 coating categories surveyed in the 1993 and 1998 surveys, respectively.

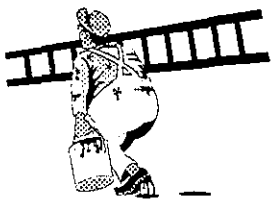
7 Data aggregated for bituminous and floor coatings because these large categories are unique to the 1998 survey.

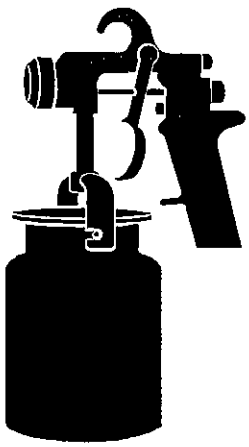
Appendix A:
1998 Survey Questionaire

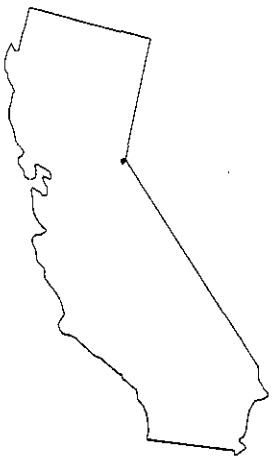
Architectural and Industrial Maintenance Coatings Survey

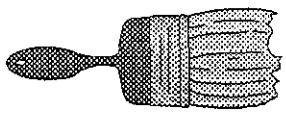
1998

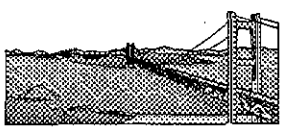


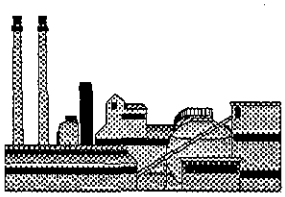












California Environmental Protection Agency

Air Resources Board

Appendix A - 1998 Survey Questionaire

SURVEY CONTENTS

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SUBMITTAL OF FORMS

Please return the completed survey to the following address:

California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812
ATTN: SSD/Criteria Pollutants Branch
Architectural Coatings Survey

ELECTRONIC SUBMITTAL OPTIONS

Electronic submittal options are available. Details can be obtained by contacting the ARB or by visiting our web site at "**www.arb.ca.gov/arch/arch.htm**."

Additional survey packages can also be downloaded from this site.

QUESTIONS

If you have any questions or other requests please call:

Mike Jaczola
tel 916.327.1515
or
Jim Behrmann
tel 916.322.8273

or write

California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812
ATTN: SSD/Criteria Pollutants Branch
Architectural Coatings Survey
tel 916.322.6020 fax 916.322.6088

INTRODUCTION

Thank you for participating in this survey of architectural and industrial maintenance coatings!

As general introduction, the survey asks you to complete four forms:
FORM I: Company information
FORM II: Product information
FORM III: Ingredient information for single or grouped products
FORM IV: Ingredient information for single or grouped products

If your company is the ***responsible party***, please complete FORM I and the appropriate number of FORMS II, III, and IV.

"Responsible party" means the company, firm or establishment which is listed on the products' label. If the label lists two companies, firms or establishments, the responsible party is the party which the product was "manufactured for" or "distributed by," as noted on the label.

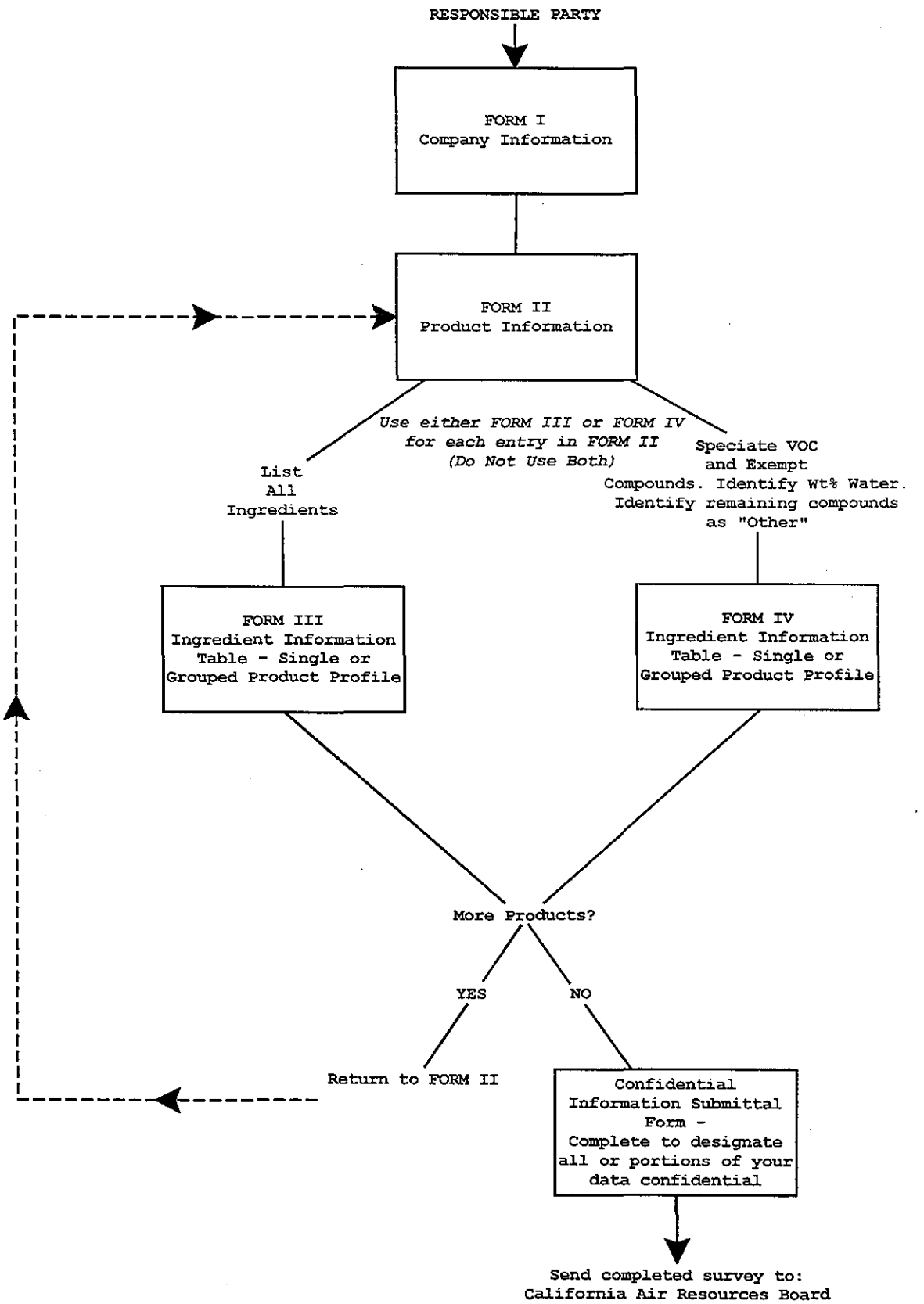
If your company is not the ***responsible party*** for any architectural and industrial maintenance coating sold in California, please complete and submit only the top portion of FORM I to the Air Resources Board.

How will this survey information be used? Our existing inventory of air pollution emissions from architectural coatings is based on a survey of 1990 information that was last collected in 1993. Inventory information is necessary for planning and modeling to forecast the effects of new regulatory efforts. Accurate inventory information produces better results, and also assures that businesses are properly credited for successful reductions in emissions. Finally, the ingredient information requested will be used to study whether or not additional flexibility can be built into regulations based on the reactivity of ingredients.

We have tried to make this survey as simple as possible. As noted in the accompanying cover letter, we worked with several air pollution control districts as well as several industry members and the National Paint and Coatings Association on the content of the survey. However, you may very well have questions as you complete the survey. Do not hesitate to call us and we will answer your questions as quickly as possible.

Thank you again, in advance, for your time and participation in this survey.

FLOW DIAGRAM FOR RESPONSIBLE PARTY



INSTRUCTIONS FOR COMPLETING SURVEY FORM I

The following instructions apply to FORM I - Company Information. General company information such as name and address are needed, as well as information regarding the company economics and business type. This information will assist in characterizing the types of businesses that are included in the survey as required by state law.

If your company is the ***responsible party*** please complete FORM I and the appropriate number of FORMS II, III, and IV.

> ***"Responsible party" means the company, firm or establishment which is listed on the products' label. If the label lists two companies, firms or establishments, the responsible party is the party which the product was "manufactured for" or "distributed by," as noted on the label.***

If your company is not the ***responsible party*** for any architectural and industrial maintenance coating please complete and submit only the top portion of FORM I to the ARB.

Company Name: Please enter the name of the company also known as **responsible party**. This name should also be the company name on FORM II - Product Information.

Division Name: If the respondent to the survey is representing a division of the company, please enter the name of the division.

Address: Enter the mail address of the company or division responsible for completing the survey.

Contact Name: Name of the person to be contacted by the ARB if there are questions about the survey responses.

Title: Business title of the contact person.

Telephone: Telephone number for the contact person.

Fax: Fax number of the contact person.

Responsible Party: Check the appropriate box (Yes or No) to indicate if your company is the responsible party (see definition above) for any architectural and industrial maintenance coatings that were sold in California.

> **Note:** If you are not the responsible party please stop here and submit FORM I to the California Air Resources Board, P.O. Box 2815, Sacramento, CA 95812 ATTN: SSD/Criteria Pollutants Branch - Architectural Coatings Survey.

Type of Business: Check the box(s) that describes the primary type of business conducted by your company or division.

Company Marketing Classification: Check the box that describes your company's primary marketing classification.

Independent Ownership: Check the appropriate answer box (Yes or No) to indicate if the company is independently owned. If the company is not independently owned, enter the name and address of the parent company in the spaces provided.

Standard Industrial Classification (SIC) codes: Enter your company's primary SIC codes (see page 21).

Gross Annual Receipts: Check the box which identifies the gross annual receipts generated by the company or division in California.

Employees: Check the box which identifies the number of employees (including part-time and temporary staff) of the company or division.

Certification: Please have a designated contact person certify the accuracy of the completed Company Information (FORM I), Product Information (FORM II), and the Ingredient Information Tables (FORM III & IV).

INSTRUCTIONS FOR COMPLETING SURVEY FORM II

This form requests specific information on each product or grouping of products. As explained below, products may be grouped under certain conditions. Only complete FORM II Product Information if you are the ***responsible party*** for a product sold in California during the calendar year 1996.

Entry #: Enter a number (1, 2, ...) for each entry on FORM II. This number will be used to relate products listed in this table to the ingredient information table in Forms III and IV.

Coating Code: Enter the code from the list below which best represents the reported coatings' category (see definitions on pages 12 - 17).

Code	Coating
01	Antenna
02	Anti-fouling
03	Anti-graffiti
04	Bituminous
05	Bond breakers
06	Chalkboard resurfacers
07	Concrete Curing Compounds
08	Dry Fog
09	Extreme high durability
	Fire retardant:
10	clear
11	opaque
12	Flats
13	Floor
14	Flow
15	Form release compounds
16	Graphic arts (sign)
17	Heat reactive
18	High Temperature
19	Industrial Maintenance
	Lacquer:
20	clear
21	opaque
22	Magnesite cement
23	Mastic texture
24	Metallic pigmented
25	Multi-color
	Nonflats:
26	High Gloss
27	Medium Gloss
28	Low Gloss
29	Nuclear
30	Pre-treatment Wash Primers
31	Primers, Sealers and Undercoaters
	Quick dry:
32	Enamels
33	Primers, Sealers and Undercoaters
34	Repair & maintenance thermoplastic
35	Roof
36	Rust preventative
37	Sanding sealers
38	Sealers
	Shellacs:
39	clear
40	opaque
	Stains:
41	clear
42	semitransparent
43	opaque
44	low solids
45	Swimming Pool
46	Swimming Pool Repair
47	Thermoplastic rubber and mastics
48	Traffic
	Varnish:
49	clear
50	semitransparent
	Waterproofing sealers:
51	clear
52	opaque
	Wood preservatives:
53	below ground
54	clear
55	semitransparent
56	opaque
57	low solids
58	Other (Identify use/application)

Number of Coatings Grouped - Enter the number of individual coatings that are grouped as one entry. Color varieties of a coating that remain within one VOC range should be considered as one coating. Enter "1" if you are reporting one coating individually.

In reporting products for the survey, coatings within a coating category can be **reported either individually or as a group**. However, you may group coatings in a category together only if the following conditions are met:

(1) The coatings belong to the same category (e.g., flats - category code 12). Color varieties of the same coating formulation should be considered one coating;

(2) The coatings have the same carrier technology (e.g., solvent-borne, water-borne, 100% solids, etc.); and

(3) The coatings have VOC contents (less water and less exempt compounds) that are within one VOC range.

Range g/l	Range g/l	Range g/l
0 - 50	251 - 300	501 - 550
51 - 100	301 - 350	551 - 600
101 - 150	351 - 400	601 - 650
151 - 200	401 - 450	651 - 700
201 - 250	451 - 500	701 and above

Interior/Exterior/Dual: Indicate whether the coating or coatings are designed for "interior" or "exterior" application. Enter "Dual" for dual purpose interior/exterior products.

Carrier Technology: Identify the carrier technology of the coating(s): Solvent-borne (SB), Water-borne (WB), or 100% Solids (S).

Note: *Use "Sales Weighted Average" (SWA) for the next four data fields if you have chosen to group coatings. These entries include: % by volume solids, VOC Actual, VOC Regulatory, and VOC Regulatory after recommended thinning. See calculations on pages 18 and 19, and page 22 for sample calculation of SWA for VOC Regulatory.*

% by Volume Solids^{SWA}: Enter the solids content of the coating(s) as percent of total coating volume. (See calculations on pages 18 & 19)

Density^{SWA}: Enter the mass per unit volume of the coating (g/l).

VOC Actual^{SWA}: Enter the VOC content of the coating(s), as supplied, in grams of VOC per liter of coating. This is the weight of all volatile materials less the weight of water and less the weight of exempt compounds per the entire volume of the coating. This is NOT the same as VOC Regulatory. (See calculations pages 18 & 19)

VOC Regulatory[SWA]: Enter the VOC content of the coatings(s), as supplied, in grams of VOC per liter of coating, less water, less exempt compounds, and less any colorant added to the tint bases. This may be determined from the chemical composition data or previously determined by EPA Method 24, 40 CFR Part 60, as amended in Federal Register Vol. 57, No. 133, July 10, 1992, or ASTM D 3960-92. (See calculations on pages 18 & 19) Do not perform additional analysis for purposes of completing this survey.

Recommended Thinning: If manufacturer recommends thinning identify the diluent and ratio (e.g., mix 1 gal of product with ½ pint mineral spirits). Thinning information usually can be found on the coating can, label, or any other accompanying literature from the manufacturer.

> **VOC Regulatory After Recommended Thinning[SWA]:** Enter the VOC Regulatory after recommended thinning of the coating(s) in grams of VOC per liter of Material. (See calculations on pages 18 & 19) NOTE - Use of water or an exempt solvent without co-solvents for thinning will not affect the VOC Regulatory content of the coating.

1996 California Sales in Gallons: Enter the California sales of the coating, in gallons, for the calendar year 1996. Identify those gallons which are sold in containers one quart or less, and containers larger than one quart.

Estimating California Sales: If California specific sales data are not available, sales may be estimated using national or regional sales figures that are apportioned appropriately. If you use population as a basis for determining sales, please use the U.S. Resident Population estimates provided on page 20 of this survey.

Comments: Enter any information that will help clarify entries made for FORM II.

Page ____ of _____: Enter the current page # out of the total pages submitted for FORM II.

INSTRUCTIONS FOR COMPLETING SURVEY FORM III
Ingredient Information Table
Single or Grouped Product Profile

FORM III requests ingredient information about single or grouped products. Use FORM III if you have elected to provide all product ingredients. In this table provide all ingredients which are part of the products' formulation. Provide this information for each entry in FORM II.

For grouped products, report the ingredients of the sales leader in the group.

Entry # From FORM II: Enter the Entry # from FORM II to which this ingredient list applies.

Ingredient #: Provide a numeric value (sequential) for each ingredient.

Ingredient Name: Enter the chemical name of the ingredient. Chemical names must be distinguished from trade names. For example, the chemical name of SD 40 Alcohol is ethanol. Enter the trade name of the ingredient if the chemical name is unknown.

CAS#: Please enter the Chemical Abstract Service (CAS) number for the ingredient. A listing of CAS numbers is included as Attachment B for your information.

Weight % (of total material): Enter the percent by weight of each ingredient in the final product. If the ingredient is a mixture of known components, list the components separately with their individual weight percentages in the final product. If the components of a mixture cannot be determined, list the ingredient as a single entity.

> Reporting Level - List ingredients that individually amount to 1.0% or greater by weight of the final product.

Aggregated Ingredients < 1.0%: Aggregate each of the remaining ingredients that individually account for less than 1.0% of the final product and enter the weight percent.

Total of All Ingredients: The sum of all ingredients in the table must equal 100 percent by weight. If this value does not sum to 100, please check the component percentages.

Comments: Enter any information that will help clarify entries made for FORM III.

Page ____ of _____: If the ingredient list for one entry from FORM II spans multiple pages enter the current page # of the total.

INSTRUCTIONS FOR COMPLETING SURVEY FORM IV
Ingredient Information Table
Single or Grouped Product Profile

FORM IV requests ingredient information about single or grouped products. Use FORM IV if you have elected to identify each Volatile Organic Compound (VOC) and Exempt Compound (Exempt VOC). Any VOCs less than 1.0 percent by weight should be aggregated and entered as a single weight percent value. Any Exempt Compounds less than 1.0 percent by weight should be aggregated and entered as a single weight percent value. Identify the weight percent water. Any remaining ingredients should be included in "All Other" for a total of all ingredients equaling 100 percent by weight of the product. Provide this information for each entry in FORM II.

For grouped products, report the ingredients of the sales leader in the group.

Entry # From FORM II: Enter the Entry # from FORM II to which this ingredient list applies.

Ingredient #: Provide a numeric value (sequential) for each ingredient.

Ingredient Name: Enter the chemical name of the ingredient. Chemical names must be distinguished from trade names. For example, the chemical name of SD 40 Alcohol is ethanol. Enter the trade name of the ingredient if the chemical name is unknown.

CAS#: Please enter the Chemical Abstract Service (CAS) number for the ingredient. A listing of CAS numbers is included as Attachment B.

Weight % (of total material)**:** Enter the percent by weight of each ingredient in the final product. If the ingredient is a mixture of known components, list the components separately with their individual weight percentages in the final product. If the components of a mixture cannot be determined, list the ingredient as a single entity.

> Reporting Level - List ingredients that individually amount to 1.0% or greater by weight of the final product.

VOCs: Enter the name, CAS #, and percent by weight of each VOC in the final product.

Exempt Compounds (Exempt VOCs)**:** Enter the name, CAS #, and percent by weight of each Exempt VOC in the final product.

Aggregated VOCs < 1.0%: Aggregate each of the remaining VOCs that individually account for less than 1.0% of the final product and enter the weight percent.

Aggregated Exempt Compounds < 1.0%: Aggregate each of the remaining Exempt Compounds that individually account for < 1.0% of the final product and enter the weight percent.

ALL Other (Remaining Ingredients)**:** Enter remaining non-volatile ingredients.

Total of All Ingredients: The sum of all ingredients in the table must equal 100 percent by weight. If this value does not sum to 100, please check the component percentages. This means that the following:

Ingredient Groups	Wt%
Sum of VOCs	#
Sum of Exempt Compounds	#
Aggregated VOCs < 1.0%	#
Aggregated Exempt Compounds < 1.0%	#
Water	#
All Other	#
Total of All Ingredients	100%

Comments: Enter any information that will help clarify entries made for FORM IV.

Page ____ of _____: If the ingredient list for one entry from FORM II spans multiple pages enter the current page # of the total.

DEFINITIONS

Antenna Coating: means a coating formulated and recommended for application to equipment and associated structural appurtenances that are used to receive or transmit electromagnetic signals.

Anti-fouling Coating: means a coating formulated and recommended for application to submerged stationary structures and their appurtenances to prevent or reduce the attachment of marine or freshwater biological organisms.

Anti-Graffiti Coatings: Industrial maintenance coatings formulated for and applied to exterior surfaces to resist repeated scrubbing and exposure to harsh solvents and cleaners used to remove graffiti.

Appurtenance: means any accessory to a stationary structure, whether installed or detached at the proximate site of installation, including but not limited to: bathroom and kitchen fixtures; cabinets; concrete forms; doors; elevators; fences; hand railings; heating equipment, air conditioning equipment, and other fixed mechanical equipment or stationary tools; lamp posts; partitions; pipes and piping systems; rain gutters and downspouts; stairways, fixed ladders, catwalks, and fire escapes; and window screens.

Architectural Coatings: Coatings applied to stationary structures and their appurtenances, to mobile homes, to pavements, or to curbs.

Bituminous Coating: Coatings formulated and recommended for roofing, pavement sealing, or waterproofing that incorporates bitumens. Bitumens are black or brown materials including, but not limited to, asphalt, tar, pitch, and asphaltite that are soluble in carbon disulfide, consist mainly of hydrocarbons, and are obtained from natural deposits of asphalt or as residues from the distillation of crude petroleum or coal.

Bond Breakers: Coatings applied between layers of concrete to prevent the freshly poured top layer of concrete from bonding to the layer over which it is poured.

Carbonates: Carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.

Chalkboard Resurfacer: means a coating formulated and recommended for application to chalkboards to restore a suitable surface for writing with chalk.

Clear Coating: means a coating that produces a dry film that allows light to pass through, so that the substrate may be distinctly seen.

Clear Wood Finishes: Clear and semi-transparent coatings, including lacquers and varnishes, applied to wood substrates to provide a transparent or translucent solid film.

Coating: means a protective, decorative, or functional film applied to a surface. Such materials include, but are not limited to, paints, topcoats, varnishes, sealers, stains, washcoats, basecoats, enamels, and temporary protective coatings.

Colorant: Solutions of dyes or suspensions of pigments that are added to coatings during production, in paint stores or on-site to produce the desired colors.

Concrete Curing Compounds: Coatings applied to freshly poured concrete to retard the evaporation of water.

Density: Mass per unit volume.

Dry Fog Coatings: Coatings formulated only for spray application such that over spray droplets dry before subsequent contact with other surfaces.

Exempt Compounds: means any of the following organic compounds (compounds with negligible photochemical reactivity):

methane;	[74-82-8]*
methylene chloride (dichloromethane);	[75-09-2]
1,1,1-trichloroethane (methyl chloroform);	[71-55-6]
trichlorofluoromethane (CFC-11);	[75-69-4]
dichlorodifluoromethane (CFC-12);	[75-43-4]
1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113);	[76-13-1]
1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114);	[76-14-2]
chloropentafluoroethane (CFC-115);	[76-15-3]
chlorodifluoromethane (HCFC-22);	[75-45-6]
1,1,1-trifluoro-2,2-dichloroethane (HCFC-123);	[306-83-2]
2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);	[2837-89-0]
1,1-dichloro-1-fluoroethane (HCFC-141b);	[1717-00-6]
1-chloro-1,1-difluoroethane (HCFC-142b);	[75-68-3]
trifluoromethane (HFC-23);	[75-46-7]
pentafluoroethane (HFC-125);	[354-33-6]
1,1,2,2-tetrafluoroethane (HFC-134);	[359-35-3]
1,1,1,2-tetrafluoroethane (HFC-134a);	[811-97-2]
1,1,1-trifluoroethane (HFC-143a);	[420-46-2]
1,1-difluoroethane (HFC-152a);	[75-37-6]
cyclic, branched, or linear completely methylated siloxanes;	[various]
the following classes of perfluorocarbons:	[various]

(A) cyclic, branched, or linear, completely fluorinated alkanes;
(B) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
(C) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
(D) sulfur-containing perfluorocarbons with no unsaturations and with the sulfur bonds only to carbon and fluorine; and

the following low-reactive organic compounds which have been exempted by the U.S. EPA:

acetone;	[67-64-1]
ethane;	[74-84-0]
[perchloroethylene]**; and	[127-18-4]
parachlorobenzotrifluoride (1-chloro-4-trifluoromethyl benzene).	[98-56-6]

* NOTE: Chemical Abstract Service (CAS) identification numbers have been included in brackets [ ] for convenience.

** The Air Resources Board exempted Perchloroethylene from the definition of VOC in the Consumer Products regulations in November 1996. Perchloroethylene is under evaluation for other inventory categories.

Exterior Coating: means an architectural coating formulated and recommended for use in conditions exposed to the weather.

Extreme High Durability Coating: means an air dry fluoropolymer-based coating that is formulated and recommended for the protection of architectural subsections and that meets the weathering requirements of American Architectural Manufacturer's Association specification 605.2 Section 7.9.

Fire-Retardant Coatings: Coatings which have a flame spread index of less than 25 when tested in accordance with ASTM Designation E-84-87, " Standard Test Method for Surface Burning Characteristics of Building Material," after application to Douglas Fir according to the manufacturer's recommendations.

Flat Architectural Coatings: Coatings which register a gloss of less than 15 on an 85 degree meter or less than 5 on a 60 degree meter.

Floor Coating: means a coating that is formulated and recommended for application to flooring including, but not limited to, decks, porches, and steps and that has a high degree of abrasion resistance.

Flow coating: means a coating that is used by electric power companies or their subcontractors to maintain the protective coating systems present on utility transformer units.

Form Release Compounds: Coatings applied to a concrete form to prevent the freshly poured concrete from bonding to the form. The form may consist of wood, metal, or some material other than concrete.

Graphic Arts Coatings (Sign Paints): Coatings formulated for and hand-applied by artists using brush or roller techniques to indoor and outdoor signs (excluding structural components) and murals, including lettering enamels, poster colors, copy blockers and bulletin enamels.

Heat Reactive Coating: means a high performance phenolic-based coating requiring a minimum temperature of 191 ^{o}C (375 ^{o}F) to 204 ^{o}C (400 ^{o}F) to obtain complete polymerization or cure. These coatings are formulated and recommended for commercial and industrial use to protect substrates from degradation and maintain product purity in which one or more of the following extreme conditions exist:

1. Continuous or repeated immersion exposure to 90 to 98 percent sulfuric acid or oleum;
2. Continuous or repeated immersion exposure to strong organic solvents;
3. Continuous or repeated immersion exposure to petroleum processing at high temperatures and pressures; and
4. Continuous or repeated immersion exposure to food or pharmaceutical products which may or may not require high temperature sterilization.

Importer: A company, group, or individual that brings architectural coatings from a location outside the United States into the United States for sale or distribution within the United States.

High Temperature Coatings: Industrial maintenance coatings formulated for and applied to substrates exposed continuously or intermittently to temperatures above 400 ° F.

Industrial Maintenance Coatings: High performance coatings formulated for and applied to substrates in industrial, commercial, or institutional situations that are exposed to one or more of the following extreme environmental conditions:

(I) immersion in water, waste water, or chemical solutions (aqueous and non-aqueous solutions), or chronic exposure of interior surfaces to moisture condensation;
(ii) acute or chronic exposure to corrosive, caustic or acidic agents, or to chemicals, chemical fumes, chemical mixtures, or solutions;
(iii) repeated exposure to temperatures in excess of 250 ° F;
(iv) repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial solvents, cleansers, or scouring agents; or
(v) exterior exposure of metal structures.

Industrial Maintenance Coatings are not for residential use or use in areas of industrial, commercial, or institutional facilities which do not experience industrial environmental conditions such as office space and meeting rooms.

Interior Coating: means an architectural coating formulated and recommended for use in conditions not exposed to natural weathering.

Label: Any written, printed, or graphic matter affixed to, applied to, attached to, blown into, formed, molded into, embossed on, or appearing upon any architectural coating container for purposes of branding, identifying, or giving information with respect to the product, use of the product, or contents of the container.

Lacquers: Wood finishes formulated with nitrocellulose or synthetic resins to dry by evaporation without chemical reaction, including lacquer sanding sealers.

Low Solids Stains and Wood Preservatives: Stains and wood preservative containing one pound or less of solids per gallon (120 grams per liter) of coating material and for which at least half of the volatile component is water.

Magnesite Cement Coatings: Coatings formulated for and applied to magnesite cement decking to protect the magnesite cement substrate from erosion by water.

Manufacturer: A company, group, or individual that produces, packages, or repackages architectural coatings for sale or distribution in the United States.

Mastic Texture Coatings: Coatings formulated to cover holes and minor cracks and to conceal surface irregularities, and applied in a thickness of at least 10 mils (dry, single coat).

Metallic Pigmented Coatings: Coatings containing at least 0.4 pounds of metallic pigment per gallon of coating as applied.

Multi-Color Coating: Coatings which exhibit more than one color when applied and which are packaged in a single container and applied in a single coat.

Nonflat Architectural Coatings: Coatings which register a gloss of 15 or greater on an 85 degree meter or 5 or greater on a 60 degree meter.

Nonflats - high gloss: Nonflat coatings which register a gloss of 70 or more on a 60 degree meter.

Nonflats - medium gloss: Nonflat coatings which register a gloss of 20 or more but less than 70 on a 60 degree meter.

Nonflats - low gloss: Nonflat coatings which register a gloss greater than 5 or more but less than 20 on a 60 degree meter.

Nuclear Coating: means any protective coating used to seal porous surfaces such as steel (or concrete) that otherwise would be subject to intrusion by radioactive materials. These coatings must be resistant to long-term (service life) cumulative radiation exposure (American Society for Testing and Materials Method D4082), relatively easy to decontaminate (American Society for Testing and Materials Method D4256), and resistant to various chemicals to which the coatings are likely to be exposed (American Society for Testing and Materials Method D3912). General protective requirements are outlined by the Department of Energy (formerly U.S. Atomic Energy Commission Regulatory Guide 1.54).

Opaque Coating: A coating producing a dry film that does not allow light to pass through, so that the substrate is concealed from view.

Pre-treatment Wash Primers: Coatings which contain a minimum of 0.5% acid by weight, applied directly to bare metal surfaces to provide necessary surface etching.

Primers: Coatings formulated and applied to substrates to provide a firm bond between the substrate and subsequent coats.

Quick Dry Enamels: Non-flat coatings which comply with the following:

(I) capable of being applied directly from the container by brush or roller under normal conditions, normal conditions being temperatures between 60 °F and 80°F.

(ii) when tested in accordance with ASTM D 1640, they shall: set to touch in two hours or less, dry hard in eight hours or less, and be tack free in four hours or less by the mechanical test method.

(iii) shall register a gloss of 70 or more on a 60 degree meter.

Quick Dry Primers, Sealers and Undercoaters: Primers, sealers and undercoaters which are dry to touch in one-half hour and can be re-coated in two hours, when tested in accordance with ASTM D1640.

Responsible Party: The company, firm or establishment which is listed on the products's label. If the label list two companies, firms or establishments, the responsible party is the party which the product was "manufactured for" or "distributed by," as noted on the label.

Repair and maintenance thermoplastic coating: means an industrial maintenance coating that has vinyl or chlorinated rubber as a primary resin and is recommended solely for the repair of existing vinyl or chlorinated rubber coatings without the full removal of the existing coating system.

Roof Coatings: Coatings formulated for application to exterior roofs and for the primary purpose of preventing water penetration, or reflecting heat or ultraviolet radiation.

Rust preventive coating: means a coating formulated and recommended for use in preventing the corrosion of ferrous metal surfaces in residential situations.

Sanding Sealers: Clear wood coatings formulated for and applied to bare wood for sanding and to seal the wood for subsequent application of varnish.

Sealers: A coating formulated for and applied to a substrate to prevent subsequent coatings from being absorbed by the substrate, or to prevent harm to subsequent coatings by materials in the substrate.

Semitransparent Coating: A coating formulated and recommended for application to substrates to impart a desired color without completely concealing the surface or its natural texture or grain pattern.

Shellacs: Clear or pigmented coatings formulated solely with the resinous secretions of the lac beetle (laccifer lacca), thinned with alcohol, and forms a film by solvent evaporation without chemical reaction.

SIC (Standard Industrial Classification) Code: A United States Department of Commerce system that organizes all industry types in the United States. Each business establishment is classified according to its primary activity, signified by a four digit SIC code.

Specific Gravity: The ratio of the mass of a solid or liquid to the mass of an equal volume of distilled water at 4 °C (39°F).

Stain: Clear and semitransparent solution or suspension of coloring matter (dyes or pigments or both) in a vehicle, designed to color a surface (usually wood) by penetration without hiding it or leaving a continuous film.

SWA: Sales Weighted Average (see calculations pages 18 & 19)

Swimming Pool Coatings: Coatings formulated and used to coat the interior of swimming pools and compatible with swimming pool water chemistry.

Swimming Pool Repair Coatings: Chlorinated rubber based coatings used for the repair and maintenance of swimming pools over existing chlorinated rubber based coatings.

Thermoplastic Rubber Coating and Mastic: A coating or mastic formulated and recommended for application to roofing or other structural surfaces and that incorporates no less than 40 percent by weight of thermoplastic rubbers in the total resin solids and may also contain other ingredients including, but not limited to, fillers, pigments, and modifying resins.

Tint Base: means a coating to which colorant is added to produce a desired color.

Traffic Coatings: Coatings formulated for and applied to public streets, highways and other surfaces including, but not limited to, curbs, berms, driveways, and parking lots.

Undercoaters: Coatings formulated and applied to substrates to provide a smooth surface for subsequent coats.

Varnishes: Clear wood finishes formulated with various resins to dry by chemical reaction on exposure to air.

Volatile Organic Compound (VOC): Any compound of carbon, excluding carbonates (carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate), and exempt compounds.

VOC Actual: Weight of all volatile materials less the weight of water and less the weight of exempt compounds per the entire volume of the coating. This is NOT the same as VOC Regulatory. See calculations pages 18 & 19.

VOC Regulatory: Enter the VOC content of the coatings(s), as supplied, in grams of VOC per liter of coating, less water, less exempt compounds, and less any colorant added to the tint bases. This may be determined from the chemical composition data or previously determined by EPA Method 24, 40 CFR Part 60, as amended in Federal Register Vol. 57, No. 133, July 10, 1992, or ASTM D 3960-92. See calculations pages 18 & 19.

Waterproofing Sealers: Coatings formulated and applied for the sole purpose of protecting porous substrates by preventing the penetration of water and which do not alter the appearance or texture of the substrate.

Wood Preservatives: Coatings which are formulated to protect wood from decay and insect attack.

CALCULATIONS

VOC Content Calculations

The following equations can be used to calculate entries contained in Form II of this survey.

$$VOC_{Actual} = \frac{W_{vm} - W_w - W_e}{V_c} \qquad VOC_{Regulatory} = \frac{W_{vm} - W_w - W_e}{V_c - V_w - V_e}$$

$$VOC_{Regulatory\ (Low\ Solids)} = \frac{W_{vm} - W_w - W_e}{V_c}$$ Use for low solid stains and wood preservatives

Where:

W_{vm}	=	Total weight of volatile materials (VOC+water+exempt compounds) in the coating, in grams
W_w	=	Weight of water in the coating, in grams
W_e	=	Weight of exempt compounds in the coating, in grams
V_c	=	Total volume of the coating, in liters
V_w	=	Volume of water in the coating, in liters
V_e	=	Volume of exempt compounds in the coating, in liters

VOC Regulatory After Recommended Thinning

The following equation can be used to calculate VOC after the coatings are thinned with VOC containing solvents.

$$VOC_{After\ Recommended\ Thinning} = \frac{Volume_{Coating}\ x\ VOC_{Regulatory} + Volume_{Thinner}\ x\ VOC_{Thinner}}{Volume_{Coating} + Volume_{Thinner}}$$

Percent Volume of Solids

The following are two equations that can be used to calculate the percent volume of solids. The choice of equation depends on the type of information that is known about the coating.

(1) If the weight and density of all of the solid (nonvolatile) materials are known, then the following equation may be used:

$$\%\ by\ Volume\ of\ Solids = \frac{Weight\ of\ Solids}{Density\ of\ Solids\ x\ Volume\ of\ Coating\ Material}\ x\ 100$$

(2) If instead, only the volatile components of a coating (VOC, water and exempt compound) are known, the percent volume of solids may be estimated by the following equation.

$$\%\ by\ Volume\ Solids = \left(1 - \frac{W_w}{D_w \times V_c} - \frac{W_{voc}}{D_{voc} \times V_c} - \frac{W_e}{D_e \times V_c} \right) \times 100$$

Where:

W_w	=	Weight of water in the coating, in grams
W_{voc}	=	Weight of VOC in the coating, in grams
W_e	=	Weight of exempt compounds in the coating, in grams
D_w	=	Density of water, in grams per liter
D_{voc}	=	Density of VOC, in grams per liter
D_e	=	Density of exempt compounds, in grams per liter
V_c	=	Total volume of the coating, in liters

Sales Weighted Average Calculation

The Sales Weighted Average (SWA) is an average value for grouped coatings, calculated by weighting the individual values by their sales. For grouped coatings in this survey, the SWA should be used to report the following entries on FORM II (Product Information): % by Volume Solids, Density, VOC Actual, VOC Regulatory, and VOC Regulatory after recommended thinning. Coatings can be grouped only if they are within the same coatings category, the same VOC range, and if they are based on the same carrier technology. The following equation can be used to calculate Sales Weighted Average.

$$SWA = \frac{(Value_1 \times Sales_1 + Value_2 \times Sales_2 + \ldots + Value_n \times Sales_n)}{Sales_1 + Sales_2 + \ldots + Sales_n}$$

Where:

$Value_{(1,2,\ldots n)}$	=	Coating characteristic values (e.g. % by Volume of Solids, Density, VOC Actual, VOC Regulatory, VOC Regulatory after thinning) for products 1,2,...n
$Sales_{(1,2,\ldots n)}$	=	Sales for products 1,2,...n

Conversion Factors

VOC Regulatory (weight per volume):
one pound VOC per gallon (US) = 119.82 grams VOC per liter

Units of Volume:
1 fl oz = 0.029574 liters
1 liquid pint = 0.47318 liters
1 liquid quart = 2 liquid pints = 0.94635 liters
1 gallon = 4 liquid quarts = 3.7854 liters

Units of Mass:

Unit	ounce(oz)	pound(lb)	gram(g)	kilogram(kg)
1 oz =	1	0.0625	28.3495	0.02834
1 lb =	16	1	453.592	0.45359

UNITED STATES RESIDENT POPULATION
July 1, 1995

United States Total = 262,755,000

STATE	THOUSANDS	RANK	STATE	THOUSANDS	RANK
Alabama	4,253	22	Montana	870	44
Alaska	604	48	Nebraska	1,637	37
Arizona	4,218	23	Nevada	1,530	38
Arkansas	2,484	33	New Hampshire	1,148	42
California	31,589	1	New Jersey	7,945	9
Colorado	3,747	25	New Mexico	1,685	36
Connecticut	3,275	28	New York	18,136	3
Delaware	717	46	North Carolina	7,195	11
District of Columbia	554	(X)	North Dakota	641	47
Florida	14,166	4	Ohio	11,15	17
Georgia	7,201	10	Oklahoma	3,278	27
Hawaii	1,187	40	Oregon	3,141	29
Idaho	1,163	41	Pennsylvania	12,072	5
Illinois	11,830	6	Rhode Island	990	43
Indiana	5,803	14	South Carolina	3,673	26
Iowa	2,842	30	South Dakota	729	45
Kansas	2,565	32	Tennessee	5,256	17
Kentucky	3,860	24	Texas	18,724	2
Louisiana	4,342	21	Utah	1,951	34
Maine	1,241	39	Vermont	585	49
Maryland	5,042	19	Virginia	6,618	12
Massachusetts	6,074	13	Washington	5,431	15
Michigan	9,549	8	West Virginia	1,828	35
Minnesota	4,610	20	Wisconsin	5,123	18
Mississippi	2,697	31	Wyoming	480	50
Missouri	5,324	16			

X = Not Applicable

Source: U.S. Bureau of the Census (Table 27, 1996 Statistical Abstract of the United States)

SIC CODES

The SIC codes below represent only portions of Manufacturing, Wholesale Trade and Retail Trade. The list is by no means all inclusive, but represents a useful reference if your company SIC code is not known. A full listing is available from the ARB upon request. Complete listings and detailed descriptions are also available via the internet.

CHEMICALS AND ALLIED PRODUCTS

2810 -- Industrial Inorganic Chemicals
2812 -- Alkalies and chlorine
2813 -- Industrial gases
2816 -- Inorganic pigments
2819 -- Industrial inorganic chemicals, not elsewhere classified
2820 -- Plastics Materials and Synthetic Resins, Synthetic Rubber, Cellulosic, etc.
2821 -- Plastics materials and resins
2822 -- Synthetic rubber
2823 -- Cellulosic manmade fibers
2824 -- Organic fibers, noncellulosic
2843 -- Surface active agents
2850 -- Paints, Varnishes, Lacquers, Enamels, and Allied Products
2851 -- Paints and allied products
2860 -- Industrial Organic Chemicals
2861 -- Gum and wood chemicals
2865 -- Cyclic crudes and intermediates
2869 -- Industrial organic chemicals, not elsewhere classified
2890 -- Miscellaneous Chemical Products
2891 -- Adhesives and sealants
2895 -- Carbon black
2899 -- Chemical preparations, not elsewhere classified

WHOLESALE TRADE

5085 -- Industrial Supplies
5160 -- Chemicals and Allied Products
5169 -- Chemicals & allied products, not elsewhere classified
5198 -- Paint products wholesale

RETAIL

5211 -- Lumber & bldg mtls retail
5231 -- Paint, glass, and wallpaper stores
5251 -- Hardware stores

Example Data sheet

The example data below corresponds to the completed survey forms on the pages that follow. This example is provided only to help you understand how the survey form should be completed. **You do not have to provide your data in the format shown below for the survey.**

Product Example #1

FORM II - Product Information Sheet
Page Number 1 of 1

Entry #: 1
Coating Code/Type: 27/Interior nonflat - medium gloss
# of grouped coatings: 3 products grouped
Interior/Exterior/Dual: Interior
Carrier Technology: Water-borne
% by volume solids: product 1 = 40, 2 = 38, 3 = 48
Sales Weighted Average (SWA) = 43

Density: 1,438 g/l
VOC Actual (g/l): 1 = 80, 2 = 100, 3 = 120, SWA = 104
VOC Regulatory: 1 = 120, 2 = 160, 3 = 180 SWA = 160 (see sample calculation below)
Recommended Thinning: None/Not Applicable (N/A)
Diluent: None/Not Applicable
VOC Regulatory after recommended thinning: N/A

Sales Information (containers > than 1 quart): 1 = 50,000, 2 = 80,000, 3 = 100,000, Total = 230,000 gallons.

Sample calculation:

$$VOC\ Regulatory^{SWA} = \frac{(\ Value_1\ x\ Sales_1\ +\ Value_2\ x\ Sales_2\ +\ ...\ +\ Value_n\ x\ Sales_n\ )}{Sales_1\ +\ Sales_2\ +\ ...\ +\ Sales_n}$$

$$VOC\ Regulatory^{SWA} = \frac{(\ 120g/l\ x\ 50{,}000gal\ +\ 160g/l\ x\ 80{,}000gal\ +\ 180g/l\ x\ 100{,}000gal\ )}{50{,}000gal\ +\ 80{,}000gal\ +\ 100{,}000gal} = 160$$

FORM III - Ingredient Information Table

XYZ Company lists all ingredients.

Product Example #2

FORM II - Product Information Sheet
Page Number 1 of 1

Entry #: 2
Coating Code/Type: 19/Industrial maintenance
# of grouped coatings: individual product
Interior/Exterior/Dual: Exterior
Carrier Technology: Solvent-borne
% by volume solids: 67
Density:1,200 g/l

VOC Actual (g/l): 290 g/l
VOC Regulatory: 338 g/l
Recommended Thinning: 1 gallon product with 1/10 gallon mineral spirits
Diluent: Mineral Spirits (820 g/l VOC)
VOC Regulatory after recommended thinning: 381 g/l

Sales Information: 7,000 one quart containers (1,750 gallons) and 30,000 one gallon containers.

FORM IV - Ingredient Information Table

XYZ speciates VOC and exempt compounds. Identifies Wt% water. Remaining Wt% is identified under all other.

FORM I

Company Information

Company / Division Name: XYZ Company	
Address: 1111 South Windham Road, Lansing, MI, 22222	
Contact Person: John Doe	Title: Manager, Product Compliance
Telephone: (999) 999-9999	Fax: (999) 999-9998
RESPONSIBLE PARTY (√ check appropriate box) ✔ YES ☐ NO	**If you answered "NO" to Responsible Party please stop here and submit FORM I to CARB.**

TYPE OF BUSINESS (√ check all that apply)

- ✔ Manufacturer
- ☐ Importer
- ☐ Retailer
- ☐ Private label contract packager
- ☐ Custom contract packager

COMPANY MARKETING CLASSIFICATION

- ☐ International
- ✔ National
- ☐ California Statewide
- ☐ California Regional - If so, which parts:

INDEPENDENT OWNERSHIP

Is your company independently owned?

✔ YES ☐ NO

If No, please provide parent company information below.

Parent Company Name:

Parent Company Address:

SIC CODES (Enter primary SIC codes)

5231		

COMPANY - GROSS ANNUAL RECEIPTS

- ☐ Less than $500,000
- ☐ Between $500,000 and $1 million
- ☐ Between $1 million and $2 million
- ☐ Between $2 million and $5 million
- ☐ Between $5 million and $10 million
- ✔ Between $10 million and $100 million
- ☐ More than $100 million
- ☐ More than $1 billion

EMPLOYEES

- ☐ Less than 10
- ✔ Between 10 and 100
- ☐ Between 100 and 250
- ☐ Between 250 and 500
- ☐ More than 500

EXAMPLE

CERTIFICATION

I hereby certify that, to the best of my knowledge and belief, all information entered on the Company Information Form, and Product Information Form is complete and accurate.

Name: John Doe	Title: Manager, Product Compliance
Signature: X	Date Signed: April 30, 1998

FOR ARB USE ONLY	Company Code:	Total # of Pages Submitted:

FORM II

Product Information

									Recommended Thinning			1996 California Sales in Gallons	
Entry #	Coating Code	Number of Products Grouped	Interior or Exterior or Dual	Carrier Tech-nology	Percent by Volume Solids (SWA)*	Density (SWA) g/l	VOC Actual (SWA) g/l	VOC Regulatory (SWA) g/l	Dilution Ratio	Diluent	VOC Regulatory (SWA) After Recommended Thinning g/l	Container sizes 1 quart or less	Container sizes larger than 1 quart
1	27	3	I	WB	43	1,438	104	160	N/A	N/A	N/A	-	230,000
2	19	1	E	SB	67	1,200	290	338	1/10 gal MS per gal	MS	381	1,750	30,000

*SWA - Use "Sales Weighted Average" if you have chosen to group coatings (see instructions and calculations)

COMMENTS: N/A = Not Applicable, MS =Mineral Spirits

Page 1 of 1

Enter current page # out of the total pages submitted for FORM II. Photocopy this page as necessary.

EXAMPLE

FORM III

Ingredient Information Table - Single or Grouped Product Profile

Entry # from FORM II: 1	List all ingredients		
Ingredient #	Ingredient Name (Trade name if ingredient name is unknown)	CAS #	Wt. %*
1	Ingredients	XXXX-XX-X	XX
2	.....	XXXX-XX-X	XX
ETC.	.....	XXXX-XX-X	XX

Aggregate Ingredients < 1.0%	XX
Total of All Ingredients (Must Equal 100%)	100

COMMENTS

* Wt% is the weight % of the ingredient in the total weight of the product. List ingredients that amount to 1.0% or greater by weight of the product.

Page 1 of 1

If the ingredient list for one entry from FORM II spans multiple pages enter current page # of the total. Photocopy this page as necessary.

EXAMPLE

FORM IV

Ingredient Information Table - Single or Grouped Product Profile

Entry # from FORM II: 2	Speciate Volatile Organic Compounds (VOCs) and Exempt Compounds. Identify the Wt% of water. Identify the remaining Wt% of other compounds as "other".		
Ingredient #	Ingredient Name (Trade name if ingredient name is unknown)*Begin by speciating VOCs first, then speciate Exempt Compounds*	CAS #	Wt. %*
	VOCs		
1	VOC #1	XXXX-XX-X	XX
2	VOC #2	XXXX-XX-X	XX
3	VOC #3	XXXX-XX-X	XX
	EXEMPT COMPOUNDS (Exempt VOCs)		
4	Exempt Compound #1	XXXX-XX-X	XX
	Aggregated VOCs <1.0%	Various	XX
	Aggregated Exempt Compounds < 1.0%	Various	XX

WATER	XX
ALL OTHER	XX
TOTAL OF ALL INGREDIENTS (Must Equal 100%)	100

COMMENTS

* Wt% is the weight % of the ingredient in the total weight of the product. List ingredients that amount to 1.0% or greater by weight of the product.

Page 1 of 1 — If the ingredient list for one entry from FORM II spans multiple pages enter current page # of the total. Photocopy this page as necessary.

EXAMPLE

ATTACHMENT A

Architectural and Industrial Maintenance Coatings

1998

SURVEY FORMS

California Environmental Protection Agency

Air Resources Board

CONFIDENTIAL INFORMATION SUBMITTAL FORM

If you wish to designate any information contained in your survey data as **CONFIDENTIAL INFORMATION**, please provide the data requested below and return it with your completed survey form .

In accordance with Title 17, California Code of Regulations (CCR), sections 91000 to 91022, and the California Public Records Act (Government Code Section 6250 et seq.), the information that a company provides to the Air Resources Board (ARB) may be released (1) to the public upon request, except trade secrets which are not emissions data or other information which is exempt from disclosure or the disclosure of which is prohibited by law; and (2) to the Federal Environmental Protection Agency (EPA), which protects trade secrets as provided in Section 114© of the Clean Air Act and amendments thereto (42 USC 7401 et seq.) and in federal regulation; and (3) to other public agencies provided that those agencies preserve the protections afforded information which is identified as a trade secret, or otherwise exempt from disclosure by law (Section 39660(e)).

Trade secrets as defined in Government Code Section 6254.7 are not public records and therefore will not be released to the public. However, the California Public Records Act provides that air pollution emission data are always public records, even if the data comes within the definition of trade secrets. On the other hand, the information used to calculate information is a trade secret.

If any company believes that any of the information it may provide is a trade secret or otherwise exempt from disclosure under any other provision of law, **it must identify the confidential information as such at the time of submission to the ARB and must provide the name, address, and telephone number of the individual to be consulted**, if the ARB receives a request for disclosure or seeks to disclose the data claimed to be confidential. The ARB may ask the company to provide documentation of its claim of trade secret or exemption at a later date. Data identified as confidential will not be disclosed unless the ARB determines, in accordance with the above referenced regulations, that the data do not qualify for a legal exemption from disclosure. The regulations establish substantial safeguards before any such disclosure.

In accordance with the provisions of Title 17, California Code of Regulations, sections 91000 to 91022, and the California Public Records Act (Government Code Sections 6250 et seq.),

Company Name: _____ declares that only those portions specifically identified and submitted in response to the California Air Resources Board's information request on the survey are confidential "**trade secret**" information, and requests that it be protected as such from public disclosure. All inquiries pertaining to the confidentiality of this information should be directed to the following person:

Name (print only): _____

Signature: _____

Title: _____

Telephone #: _____

Company Address: _____

_____

FORM I

Company Information

Company / Division Name:	
Address:	
Contact Person:	Title:
Telephone:	Fax:
RESPONSIBLE PARTY (√ check appropriate box) ☐ YES ☐ NO	**If you answered "NO" to Responsible Party please stop here and submit FORM I to CARB.**

TYPE OF BUSINESS (√ check all that apply)

- ☐ Manufacturer
- ☐ Importer
- ☐ Retailer
- ☐ Private label contract packager
- ☐ Custom contract packager

COMPANY MARKETING CLASSIFICATION

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- ☐ National
- ☐ California Statewide
- ☐ California Regional - If so, which parts:

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Is your company independently owned?

☐ YES ☐ NO

If No, please provide parent company information below.

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Parent Company Address:

SIC CODES (Enter primary SIC codes)

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- ☐ Between $500,000 and $1 million
- ☐ Between $1 million and $2 million
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- ☐ Between $5 million and $10 million
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EMPLOYEES

- ☐ Less than 10
- ☐ Between 10 and 100
- ☐ Between 100 and 250
- ☐ Between 250 and 500
- ☐ More than 500

CERTIFICATION

I hereby certify that, to the best of my knowledge and belief, all information entered on the Company Information Form, and Product Information Form is complete and accurate.

Name:	Title:
Signature:	Date Signed:

FOR ARB USE ONLY	Company Code:	Total # of Pages Submitted:

FORM II

Product Information

									Recommended Thinning			1996 California Sales in Gallons	
Entry #	Coating Code	Number of Products Grouped	Interior or Exterior or Dual	Carrier Tech-nology	Percent by Volume Solids (SWA)*	Density (SWA) g/l	VOC Actual (SWA) g/l	VOC Regulatory (SWA) g/l	Dilution Ratio	Diluent	VOC Regulatory (SWA) After Recommended Thinning g/l	Container sizes 1 quart or less	Container sizes larger than 1 quart

*SWA - Use "Sales Weighted Average" if you have chosen to group coatings (see instructions and calculations)

COMMENTS

Page _____ of _____ Enter current page # out of the total pages submitted for FORM II. Photocopy this page as necessary.

FORM III

Ingredient Information Table - Single or Grouped Product Profile

Entry # from FORM II:	**List all ingredients**		
Ingredient #	Ingredient Name (Trade name if ingredient name is unknown)	CAS #	Wt. %*

Aggregate Ingredients < 1.0%	
Total of All Ingredients (Must Equal 100%)	

COMMENTS

______

______

______

______

* Wt% is the weight % of the ingredient in the total weight of the product. List ingredients that amount to 1.0% or greater by weight of the product.

Page ______ of ______

If the ingredient list for one entry from FORM II spans multiple pages enter current page # of the total. Photocopy this page as necessary.

FORM IV

Ingredient Information Table - Single or Grouped Product Profile

Entry # from FORM II:	**Speciate Volatile Organic Compounds (VOCs) and Exempt Compounds. Identify the Wt% of water. Identify the remaining Wt% of the product as "other".**		
Ingredient #	Ingredient Name (Trade name if ingredient name is unknown)*Begin by speciating VOCs first, then speciate Exempt Compounds*	CAS #	Wt. %*
	VOCs		
	EXEMPT COMPOUNDS(Exempt VOCs)		
	Aggregated VOCs< 1.0%	Various	
	Aggregated Exempt Compounds< 1.0%	Various	

COMMENTS

WATER	
ALL OTHER	
TOTAL OF ALL INGREDIENTS(Must Equal 100%)	

* Wt% is the weight % of the ingredient in the total weight of the product. List ingredients that amount to 1.0% or greater by weight of the product.

Page _____ of _____ If the ingredient list for one entry from FORM II spans multiple pages enter current page # of the total. Photocopy this page as necessary.

ATTACHMENT B

CHEMICAL ABSTRACT SERVICE (CAS) NUMBER AND SYNONYMS

The following list of compounds and their associated CAS numbers was compiled from the U.S. EPA survey of Consumer Products database. This database had a field for the VOC's in each product and a field for their associated CAS numbers. These fields were compiled into a separate database, sorted, corrected, and duplicate items were removed. All synonyms (different name, same CAS #) that were not redundant were retained.

In addition, this list of compounds includes species profiles that were obtained from water-borne and solvent-borne coatings under ARB Contract # 93-319, "Improvement of Species Profiles for Architectural and Industrial Maintenance Coating Operations."

The list is by no means all inclusive, but provides a useful reference when the CAS number for a product ingredient cannot be found. We encourage individuals responding to the survey to use their product ingredient's listed CAS numbers when they are available. This is especially important when listing the hydrocarbons, because many ingredients may have the same name, but different CAS numbers. For example, kerosene, mineral spirits, naphtha, petroleum distillate and others may each have several different CAS numbers reflecting differences in product grade.

If access to the internet is available survey respondents can take advantage of chemical databases available via the World Wide Web. One useful example of this is the Chemfinder WebServer Project. The Chemfinder Webserver is a chemical database that performs searches using one or all of the following criteria: name, formula, molecular weight, melting point, boiling point, CAS #, and structure. If the search finds a match detailed information is provided about the compound (e.g., synonyms, specific gravity, flash point, MSDS, DOT #, etc.). The last pages of this Attachment include an example search performed using Chemfinder Webserver.

CARB CHEMICAL NAME/CAS NUMBER LIST

Alphabetical Order

Chemical Name	CAS #
#2 Diesel Fuel	68476346
(1,1,1) Trichloroethane	71556
(MCPP) Dimethylamine salt	32351705
1 - Octadecanol	112925
1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C4F9OCH3)	**********
1,1,1,2,3,3-Hexafluoropropane (HFC-236ea)	431630
1,1,1,2,3,4,4,5,5,5-Decafluoropentane (HFC 43-10mee)	**********
1,1,1,2,3-Pentafluoropropane (HFC-245eb)	431312
1,1,1,2-Tetrafluoroethane (HFC-134a)	811972
1,1,1,3,3,3-Hexafluoropropane (HFC-236fa)	690391
1,1,1,3,3-Pentafluorobutane (HFC-365mfc)	406586
1,1,1,3,3-Pentafluoropropane (HFC-245fa)	460731
1,1,1-oxybisethane	60297
1,1,1-trichloroethane	79016
1,1,1-Trichloroethane (Methyl chloroform)	71556
1,1,1-Trifluoro-2,2-dichloroethane (HCFC-123)	306832
1,1,1-Trifluoroethane (HFC-143a)	420462
1,1,2,2,3-Pentafluoropropane (HFC-245ca)	679867
1,1,2,2-Tetrachloroethylene	127184
1,1,2,2-Tetrafluoroethane (HFC-134)	359353
1,1,2,3,3-Pentafluoropropane (HFC-245ea)	24270664
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	76131
1,1,2-Trichloroethylene	79016
1,1,3,3-Tetramethylcyclohexane	24770647
1,1-dichloro-1-fluoroethane (HCFC-141b)	25167888
1,1-Difluoroethane (HFC-152a)	75376
1,1-Methylene-bis-4-Isocyanobenzene)	101688
1,2 Propanediol	57556
1,2,3-Propanetriol	56815
1,2,3-Trimethylbenzene	526738
1,2,4-Trimethylbenzene	95636
1,2,4-Trimethylbenzene (pseudo-Cumene)	95636
1,2,4-Trimethylcyclohexane	2234755
1,2-Butylene Oxide (ethyl oxirane)	106887
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC-114)	76142
1,2-Dichloro-1,1,2-trifluoroethane (HCFC-123a)	354234
1,2-Ethanediol	107211
1,3,5-Trimethylbenzene (Mesitylene)	108678
1,3-Butylene Glycol	107880
1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	507551
1,3-Dimethyl-5-ethylbenzene	934747
1,4 Diglycidyloxybutane	2425798
1,4-BENZENEDIOL	123319
1,4-bis-bromoacetoxy-2-butene	20679587
1,4-Dichlorobenzene	106467
1,4-dioxane	123911
1,6-DIISOCYANTO-HEXANE	822061
1-(2-butoxyethoxy)-2-propanol	124163
1-Acetoxy-2-butoxyethane (2-Butoxyethyl acetate)	11272
1-Amino-2-Propanol	78966
1-Butanol	71363
1-Butoxy-2-propanol	5131668
1-Chloro-1,1-difluoroethane (HCFC-142b)	75683
1-Chloro-1-fluoroethane (HCFC-151a)	1615754
1-Chloro-4-trifluoromethyl benzene (Parachlorobenzotrifluoride)	98566
1-Ethoxy-1,1,2,2,3,3,4,4,4-nonfluorobutane (C4F9OC2H5)	**********
1-Ethyl-2-methylbenzene (o-Ethyltoluene)	611143
1-Ethyl-3-methylbenzene (m-Ethyltoluene)	620144
1-Ethyl-4-methylbenzene (p-Ethyltoluene)	622968
1-Methoxy-2-propanol	107982
1-Methoxy-2-Propanol Acetate	108656
1-Methoxy-2-Propyl acetate	108656
1-METHYL - 4 -(1-METHYLETHENYL) CYCLOHEXENE	59892725
1-METHYL-1-PHENYLETHYL HYDROPEROXIDE	80159
1-Methyl-2-propylcyclohexane	4291796
1-METHYL-2-PYRROLIDONE	872504

By CAS Number

Chemical Name	CAS #
1-Acetoxy-2-butoxyethane (2-Butoxyethyl acetate)	11272
Methanol	49120
cis-Decalin	49316
trans-Decalin	49327
FORMALDEHYDE	50000
Formalin Formaldehyde	50000
Lactic Acid	50215
Lactic AcidEDTA	50215
Sorbitol (D-Gluticol, C6H14O6)	50704
SORBITOL (D-Gluticol, C6H14O6)	50704
Piperonyl Butoxide	51036
Piperonyl Butoxide, Technical	51036
Technical piperonly butoxide	51036
Trichlorfon	52686
Nitroglycerin (1,2,3-propanetriol, trinitrate)	55630
Dipropylene Triamine	56188
Carbon tetrachloride	56235
1,2,3-Propanetriol	56815
Glycerin	56815
Vegetable Glycerin	56815
CARBAMIDE	57136
1,2 Propanediol	57556
Propylene Glycol	57556
Lindane (hexachlorocyclohexane)	58899
Ethylene Diamine Tetra Acetate	60004
ETHYLENE DIAMINE TETRA ACETATE	60004
1,1,1-oxybisethane	60297
Diethyl Ether	60297
Ethyl Ether	60297
Dimethoate	60515
Dimethoate - Technical	60515
Dimethoate Insecticide Concentrate	60515
Dichlorvos	62737
1-Naphthyl-n-methylcarb-amate	63252
Carbaryl	63252
Carbaryl - Technical	63252
cis-1,3-Dimethylcyclohexane	63840
Tetrasodium EDTA	64028
Alcohol	64175
ALCOHOL SDA	64175
Denatured Ethyl Alcohol	64175
denatured ethyl alcohol (w/ camphor)	64175
ETHANOL	64175
Ethyl Alcohol	64175
Ethyl Alcohol SDA	64175
SD Alcohol 38	64175
SD Alcohol 40	64175
SD-Alcohol	64175
SDA	64175
SDA-38B	64175
SDA-40 (Denatured Alcohol)	64175
SDA-40B Alcohol (Ethanol)	64175
Formic acid	64186
FORMIC ACID (90%)	64186
Methanoic acid	64186
Acetic Acid	64197
Acetic Acid 100%	64197
ACETIC ACID GLACIAL	64197
Methanol	67561
Methanol Alcohol	67561
Methyl Alcohol	67561
2-Propanol	67630
Dimethyl Carbinol	67630
IPA	67630
Isopropanol	67630
Isopropyl Alcohol	67630

CARB CHEMICAL NAME/CAS NUMBER LIST

Alphabetical Order

Chemical Name	CAS #
1-Methyl-3-ethylbenzene (m-Ethyltoluene)	620144
1-Methyl-4-isopropylcyclohexane (p-Menthane)	99821
1-Naphthyl-n-methylcarb-amate	63252
1-Nitropropane	108032
1-PENTANOL	71410
1-phenyl methanol	100516
1-Propanamine, 3-(Triethoxysilyl)-	919302
1-Propanol	71238
12-Hydroxy Octadecanoic Acid	3159624
12-Hydroxy Octadecanoic Acid Methyl Ester	141131
12-Hydroxy Octadecanoic Acid Monolithium Salt	7620771
12-HYDROXY-OCTADECANOIC ACID	3159624
2 (3H)-Furanone, Dihydro	96480
2,2,4 TMO	3236531
2,2,4 Trimethylhexamethylenediamine	3236531
2,2,4-TRIMETHYL -1,3-MONOISOBUTYRATE	25265774
2,2,4-Trimethyl-1,3-pentanediol	144194
2,2,4-Trimethyl-1,3-pentanediol di-isobutyrate (Texanol iso-buty	6846500
2,2,4-Trimethyl-1,3-pentanediol-iso-butyrate	25265774
2,2-dichloro-1,1-difluoroethyl methyl ether	76380
2,4 Dichlorophenoxy Acetic Acid	2008391
2,4,4 tirmethylhexamethylenediamine	3236542
2,4-D Dimethylamine salt	2008391
2,4-dichlorophenoxy acetic acid	94757
2,4-DIISOCYANTO-1-METHYLBENZENE	584849
2,5-PYRROLIDINEDIONE	123568
2,6-Dimethylnonane	17302282
2-(2-Butoxyethoxy)-Ethanol	112345
2-(2-Ethoxyethoxy) ethanol	111900
2-(2-methyl-4-chlorophenoxy)-propionic acid	93652
2-(Difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane	**********
2-(Difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane	**********
2-(Ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane	**********
2-(Ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane	**********
2-(Methylethoxy)Phenol Methylcarbamate	114261
2-(Tert-butylamino)-4-Chloro-6-Ethylamino-s-triazi	5915413
2-Aminoethanol	141435
2-Bromo-2-chloro-1,1,1-trifluoroethane	151677
2-Butanol	78922
2-Butanone	78933
2-BUTENEDIOIC ACID	110167
2-Butoxyethanol	111762
2-Butoxyethyl Acetate	112072
2-Chloro-1,1,1,2-tetrafluoroethane (HCFC-124)	2837890
2-CYANO-2-PROPENOIC ACID ETHYL ESTER	7085850
2-Ethanolhexanol distillates	68609687
2-Ethoxyethanol	110805
2-ETHOXYETHYL ACETATE	111159
2-ETHYL OXY-BIS-HEXANOIC ACID	18268707
2-Ethyl-3 Ethanoxpropionate	763699
2-Ethylhexyl Nitrate	27248967
2-Heptanone	110430
2-Methoxy-1-Propanol	1589475
2-Methoxy-1-Propanol Acetate	70657704
2-METHOXYETHYLACETATE	110496
2-Methoxymethylethoxy Propanol	34590948
2-Methyl decane	6975980
2-Methyl heptane	592278
2-Methyl nonane	871830
2-METHYL PROPANE	75285
2-Methyl-1-Propanol	78831
2-Methyl-2,4-Pentanediol	107415
2-METHYL-2-PROPENOIC ACID MONOESTER	27813021
2-methyl-4-isothiazoline-3-one	2682204
2-METHYLHEXANE	591764
2-MethylNaphthalene	91576
2-methylpentane	107835

By CAS Number

Chemical Name	CAS #
Isopropyl Alcohol, Anhydrous	67630
2-Propanone	67641
Acetone	67641
Acetone USP	67641
Dimethyl Ketone	67641
Propanone	67641
CHLOROFORM	67663
Dimethyl Sulfoxide	67685
Thioglycolic Acid	68111
Dimethyl Formamide	68122
N, N-dimethylformamide	68122
Tetrapropyl Orthosilicate	68209
1-Propanol	71238
n-Propanol	71238
N-Propyl Alcohol	71238
Propyl Alcohol	71238
1-Butanol	71363
Butanol	71363
Buturol	71363
Butyl Alcohol	71363
n-butanol	71363
n-Butyl Alcohol	71363
Normal Butyl Alcohol	71363
1-PENTANOL	71410
(1,1,1) Trichloroethane	71556
1,1,1-Trichloroethane (Methyl chloroform)	71556
Aerothene TT	71556
Methyl chloroform (1,1,1-Trichloroethane)	71556
Methoxychlor	72435
Methane	74828
Ethane	74840
Ethylene	74851
Propane	74986
PROPELLANT A-108 - PROPANE	74986
Dichloromethane (Methylene chloride)	75092
Methylene Chloride	75092
Methylene chloride (Dichloromethane)	75092
Difluoromethane (HFC-32)	75105
HFC-32 (Difluoromethane)	75105
Ethylene Oxide (Oxirane)	75218
2-METHYL PROPANE	75285
Isobutane	75285
Isobutane (A-31)	75285
ISOPROPYLAMINE	75310
1,1-Difluoroethane (HFC-152a)	75376
DIFLUOROETHANE	75376
HFC-152a (1,1-Difluoroethane)	75376
CFC-12 (Dichlorodifluoromethane)	75434
Dichlorodifluoromethane (CFC-12)	75434
CHLORODIFLUOROMETHANE	75456
Chlorodifluoromethane (HCFC-22)	75456
FREON 22 SOLVENT	75456
HCFC-22 (Chlorodifluoromethane)	75456
HFC-23 (Trifluoromethane)	75467
Trifluoromethane (HFC-23)	75467
NITROMETHANE	75525
T-Butyl Alcohol	75650
TERT-BUTYL ALCOHOL	75650
1-Chloro-1,1-difluoroethane (HCFC-142b)	75683
HCFC-142b (1-Chloro-1,1-difluoroethane)	75683
CFC-11 (Trichlorofluoromethane)	75694
Trichlorofluoromethane (CFC-11)	75694
Dichlorodifluoromethane	75718
T-Amyl Alcohol	75854
Chloropicrin (trichloronitromethane)	76062
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	76131
CFC-113 (1,1,2-Trichloro-1,2,2-trifluoroethane)	76131

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Chemical Name	CAS #
2-Nitropropane	79469
2-Pentanone (Methyl propyl ketone)	107879
2-PHENYLHYDRAZIDE ACETIC ACID	114830
2-Propanol	67630
2-propanol, 1-methoxy-	107982
2-propanol, 1-[2-(2-methoxy-1-methylethoxy)-1-m...	20324338
2-Propanol-1-Butoxy	5131668
2-Propanone	67641
2-PROPENOIC ACID	79107
2-Propoxyethanol	2807309
2251 Oil (or 2263 Oil @ 64742-47-8)	64742149
3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	422560
3,6-dichloro-o-anisic acid (Benzoic acid, 3,6 dichloro-2-methyo>	1918009
3-4 Dimethyl- 2,6 Dinitribenzenamine	40487421
3-ETHYOXY PROPANOIC ACID ETHYL ESTER	763699
3-Methyl decane	13151343
3-METHYLHEXANE	589344
3-METHYLMETHOXYBUTANOL	56539663
3-methylpentane	96140
4,6-Dichloro-2-Trichloromethylpyridine	1129197
4-Hydroxy-4-Methyl-2-Pentanone	123422
4-Isopropenyl 1-Methylcyclohexane	5989275
4-Methyl decane	2847725
4-Methyl heptane	589537
4-Methyl nonane	17301949
4-Methyl-2-Pentanol	108112
4-Methyl-2-Pentanone	108101
5 Bromo-3-Sec-Butyl Methyluracil	314409
5-chloro-2-methyl-4-isothiazoline-3-one	26172554
5-Methyl decane	13151354
9-Octadecenoic Acid (Z) Ammonium Salts	544605
99.5% Monochlorotoluene	95498
a,a,a-trifluoro-s,6-dinitro-n,n-dipropyl-p-toluide	1582098
A-70 Hydrocarbon Propellant	68476857
Acenaphthane	82329
Acetamide, N, N'-(ethenylmethyl-silylene)Bis-N-Me	50791872
Acetic Acid	64197
Acetic Acid 100%	64197
ACETIC ACID ETHYL ESTER	141786
ACETIC ACID GLACIAL	64197
ACETIC ACID, BUTYL ESTER	123864
Acetone	67641
Acetone USP	67641
Acetophenone	98862
Acrolein	107028
ACRYLIC ACID	79107
Aerothene TT	71556
Alcohol	64175
Alcohol Ethoxylate	68439509
ALCOHOL SDA	64175
ALIPHATIC DISTILLATE	64741737
Aliphatic Hydrocarbon	64742963
Aliphatic Hydrocarbon	64742977
Aliphatic Hydrocarbon	64771728
ALIPHATIC HYDROCARBON	64741657
ALIPHATIC HYDROCARBON	64742899
Aliphatic Hydrocarbon (Stoddard Type)	8052413
aliphatic petroleum distillate	64742967
Aliphatic Petroleum Distillate	64742887
Aliphatic petroleum distillates	8008206
Aliphatic petroleum distillates	64741657
Aliphatic petroleum distillates	68334305
Aliphatic Petroleum Hydrocarbon	64741442
Alkali Surfactant	61790123
Alkali Surfactant NM	64972196
Alkyl Acetate	90438792
Alkyl Dimethyl Benzyl Ammonium Chloride	68391015

By CAS Number

Chemical Name	CAS #
FREON TF	76131
Trichlorotrifluoroethane (CFC-113)	76131
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC-114)	76142
CFC-114 (1,2-Dichloro-1,1,2,2,-tetrafluoroethane)	76142
CFC-115 (Chloropentafluoroethane)	76153
Chloropentafluoroethane (CFC-115)	76153
camphor	76222
2,2-dichloro-1,1-difluoroethyl methyl ether	76380
ATROSOL 504 (citrus acid?)	77929
Tributoxy Ethyl Phosphate	78513
TRIBUTOXY ETHYL PHOSPHATE	78513
Tributoxyethyl Phosphate	78513
Isophorone	78591
2-Methyl-1-Propanol	78831
Isobutanol	78831
Isobutyl Alcohol	78831
2-Butanol	78922
Butanol	78922
BUTYL ALCOHOL	78922
Sec-butanol	78922
sec-Butyl alcohol	78922
2-Butanone	78933
MEK	78933
Methyl Ethyl Ketone	78933
1-Amino-2-Propanol	78966
1,1,1-trichloroethane	79016
1,1,2-Trichloroethylene	79016
Trichloroethylene	79016
2-PROPENOIC ACID	79107
ACRYLIC ACID	79107
Glycolic Acid	79141
Hydroxyacetic Acid	79141
PERACETIC ACID	79210
NITROETHANE	79243
Methacrylic Acid (2-methyl, 2-propenoic acid)	79414
2-Nitropropane	79469
1-METHYL-1-PHENYLETHYL HYDROPEROXIDE	80159
Methyl methacrylate	80626
Dexpanthenol	81130
Acenaphthane	82329
Dibutyl Phthalate	84742
Parachlorometoxylenol	88040
N-vinyl-2-pyrrolidone	88120
O-Nitrotoluene	88722
Menthol	89781
ortho-phenylphenol	90437
Decahydronapthalene	91178
Decalin	91178
Decalin (Decahydronaphthalene)	91178
Naphthalene	91203
2-MethylNaphthalene	91576
Methyl Benzoate	93583
2-(2-methyl-4-chlorophenoxy)-propionic acid	93652
Dimethylamine Salt of MCPP	93652
Benzocaine (Ethyl p-aminobenzoate)	94097
SAFROLE #	94597
2,4-dichlorophenoxy acetic acid	94757
Diethylamine salt of 2,4-dichlorophenoxyacetic acd	94757
Benzotriazole	95147
Xylene (o)	95476
99.5% Monochlorotoluene	95498
CHLOROTOLUENE	95498
O-CHLOROTOLUENE	95498
O- Dichlorobenzene	95501
ORTHO DICHLOROBENZENE	95501
1,2,4-Trimethylbenzene	95636
1,2,4-Trimethylbenzene (pseudo-Cumene)	95636

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Chemical Name	CAS #
Alkyl Dimethyl Ethyl Benzyl Ammonium Chloride	68956790
Alkyl dimethylbenzylammonium chloride	68391015
Alkyl Glycidyl Ether	68609972
Alkyl Olefin Sulfonate	68439576
Alkyl Olefin Sulfonate, Sodium Salt	68439576
Alkylaryl Sulfonate	26264051
Alkylaryl Sulfonate Isopropylamine Salt	26264051
Alkylation Naphtha, heavy	64741657
Alkylphenol Ethanol	9016459
Alkylphenol Ethoxylate	9016459
Alpha terpineol	98555
Amino Methyl Propanediol	115695
Aminomethyl Propanol	124685
Ammonium Lactate (Propanoic acid, 2-hydroxy-monoammoniur	515980
Ammonium Lauryl Sulfate	2235543
Ammonium Thioglycolate	5421465
Amyl Acetate	628637
arcosolv pm	107982
Armak 1194	61791262
Aromatic 150	25551137
Aromatic 200 Solvent	68477316
Aromatic Hydrocarbon Solvent	64741680
AROMATIC HYDROCARBON SOLVENT	68477316
Aromatic Petroleum Distillate	64741986
AROMATIC PETROLEUM DISTILLATE	68477316
Aromatic Petroleum Distillates	64742907
AROMATIC SOLVENT	13330207
Asphalt	8052424
Atrazine - Tech	1912249
ATROSOL 504 (citrus acid?)	77929
Bardac 208M Lonza	68424955
Bardac MB-50]	139082
Barrium Sulfinate	61790485
Base Oil	8030309
Benefin	1861401
Benomyl	17804352
Bensulide	741562
Benzaldehyde	100527
Benzalkonium Chloride	8001545
Benzocaine (Ethyl p-aminobenzoate)	94097
Benzotriazole	95147
Benzoyl Alcohol	100516
Benzyl Acetate	140114
Benzyl Alcohol	100516
benzyl ammonium chloride	68424851
Benzylkonium Chloride (w/ 20% ethanol)	68424851
Betaine	61789400
Bismuth Octoate	67874719
Boiled Linseed Oil	8001261
BTC-2125M 80% Stephan Company	68391015
BTC-8249 Stephan Company	68391015
BTC-8358 Stephan Company	8001545
Butane	106978
Butane, branched and linear	68513655
Butanediol diglycidyl ether	2425798
Butanol	71363
Butanol	78922
Butoxyethanol	111762
ButoxyPropanol	57018527
Buturol	71363
Butyl acetate	123864
Butyl acetate	540885
Butyl Alcohol	71363
BUTYL ALCOHOL	78922
Butyl Carbitol	112345
Butyl cellosolve	111762
Butyl Cellosolve Acetate	112072

By CAS Number

Chemical Name	CAS #
3-methylpentane	96140
DIHYDROXY ACETONE	96264
2 (3H)-Furanone, Dihydro	96480
Butyrolactone	96480
gamma-Butyrolactone	96480
Eugenol	97530
Isobutyl Isobutyrate	97858
Isobutyl methacrylate	97869
TETRAHYDROFURFURYL ALCOHOL	97994
Furfuryl Alcohol	98000
Alpha terpineol	98555
pine oil	98555
TERPENE ALCOHOLS	98555
1-Chloro-4-trifluoromethyl benzene (Parachlorobenzotrifluoride)	98566
Parachlorobenzotrifluoride (PCBTF)	98566
PCBTF (Parachlorobenzotrifluoride)	98566
Acetophenone	98862
Niacinamide (3-pyrridine carboxamide)	98920
1-Methyl-4-isopropylcyclohexane (p-Menthane)	99821
N,N-DIMETHYL-P-TOLUIDINE	99978
DIETHYLAMINOETHANOL	100378
Ethyl Benzene	100414
STYRENE (ethenyl benzene)	100425
1-phenyl methanol	100516
Benzoyl Alcohol	100516
Benzyl Alcohol	100516
RESIN A-BENZYL	100516
Benzaldehyde	100527
1,1-Methylene-bis-4-Isocyanobenzene)	101688
Triethanolamine	102716
n-Propylbenzene	103651
Propylbenzene	103651
DIETHYLENE GLYCOL PHENYL ETHER	104687
CAPROLACTAM (2H-Azepin-2-one, hexahydro)	105602
XYLENE (p)	106423
Xylol (p)	106423
1,4-Dichlorobenzene	106467
p-dichlorobenzene	106467
Para-dichlorobenzene	106467
Dimethyl Succinate (Butanedioic acid, dimethyl ester)	106650
1,2-Butylene Oxide (ethyl oxirane)	106887
Butane	106978
Hydrocarbon Propellant A-17	106978
N-BUTANE	106978
Acrolein	107028
Ethylene Dichloride	107062
ETHYLENE DIAMINE	107153
1,2-Ethanediol	107211
Ethylene Glycol	107211
2-Methyl-2,4-Pentanediol	107415
Hexylene Glycol	107415
Hexylene glycol (2-Methyl-2,4-pentane diol)	107415
PROPYLENE GLYCOL METHYL ETHER	107556
2-methylpentane	107835
Isohexane	107835
2-Pentanone (Methyl propyl ketone)	107879
METHYL N-PROPYL KETONE	107879
Methyl propyl ketone (2-Pentanone)	107879
1,3-Butylene Glycol	107880
Butylene Glycol	107880
1-Methoxy-2-propanol	107982
2-propanol, 1-methoxy-	107982
arcosolv pm	107982
Dowanol PM Glycol Ether	107982
GLYCOL ETHER PM	107982
Methoxypropanol	107982
PROPYLENE GLYCOL METHYL ETHER	107982

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Chemical Name	CAS #
Butyl Glycidyl Ether (Oxirane, butoxymethyl)	2426086
Butylene Glycol	107880
Butyrolactone	96480
C-8/C-10 Alcohol	68603156
C10-15 Saturated Hydrocarbon	64742478
C10-C11 PARAFFINS CYCLO-PARAFFINS	64741657
C11-12 Isoparaffin	68551177
C11-13 ISOPARAFFIN	64742489
C11-13 Isoparaffin Solvent	68551177
C12 Alpha Olefin	25378227
C12-C15 Ethoxylated Alcohol	68131395
C3-C4 Alkane Propellant	68475592
C3-C4 Propellent	68475592
C4F9OC2H5 (1-Ethoxy-1,1,2,2,3,3,4,4,4-nonfluorobutane)	**********
C4F9OCH3 (1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane)	**********
c6-oxo Alcohol Acetate	88230357
C9-11 ISOPARAFFIN	68551166
C9-C12 Alkylbenzenes	68515253
C9-C12 Saturated Hydrocarbons	64741657
camphor	76222
Camphor	21368683
CAMPHOR	464493
Camphor Oil	8008513
Camphor yellow	8008513
CAPROLACTAM (2H-Azepin-2-one, hexahydro)	105602
Captan	133062
Captan, Technical	133062
CARBAMIDE	57136
Carbaryl	63252
Carbaryl - Technical	63252
Carbital DE	111900
Carbitol	111900
Carbitol Solvent	111900
Carbon Dioxide	124389
Carbon tetrachloride	56235
Carsamide CA	61789193
CASTOR OIL	8001794
Cellosolve (EGEE)	110805
Cellosolve Acetate	111159
Cellosolve Solvent	110805
CFC-11 (Trichlorofluoromethane)	75694
CFC-113 (1,1,2-Trichloro-1,2,2-trifluoroethane)	76131
CFC-114 (1,2-Dichloro-1,1,2,2,-tetrafluoroethane)	76142
CFC-115 (Chloropentafluoroethane)	76153
CFC-12 (Dichlorodifluoromethane)	75434
CHLOROBENZENE	108907
CHLORODIFLUOROMETHANE	75456
Chlorodifluoromethane (HCFC-22)	75456
Chlorofluoromethane (HCFC-31)	593704
CHLOROFORM	67663
Chloropentafluoroethane (CFC-115)	76153
Chloropicrin (trichloronitromethane)	76062
CHLOROTOLUENE	95498
Chlorpyrifos	291882
Chlorpyrifos	2921882
Chlorpyrifos-methyl	5598130
CIS 1,3-Dichloropropene	10061015
cis-1,3-Dimethylcyclohexane	63840
cis-Decalin	49316
Citrus Distillate	5989275
Citrus Terpenes	5989275
Clopyralid Monoethanolamine salt	57754855
Clove Oil	8000348
Cocamidopropyl Amino Betane	61789400
Coco Diethanolamide	67785131
Coco Diethanolamide-sulfonate	67785119
Cocoamidopropyl Amine Oxide 35%	68155099

By CAS Number

Chemical Name	CAS #
Propylene Glycol Monomethyl Ether	107982
Dimethylethanolamine	108010
1-Nitropropane	108032
Vinyl acetate	108054
4-Methyl-2-Pentanone	108101
Hexone	108101
Methyl Isobutyl Ketone	108101
MIBK	108101
4-Methyl-2-Pentanol	108112
Methyl amyl alcohol	108112
Isopropyl Acetate	108214
Xylene	108383
M-cresol	108394
Meta Cresol 36/38	108394
1-Methoxy-2-Propanol Acetate	108656
1-Methoxy-2-Propyl acetate	108656
Dowanol PM Acetate	108656
Ethylene Glycol Monomethyl Ether Acetate	108656
GLYCOL ETHER ACETATE	108656
METHOXY PROPANOL ACETATE	108656
PM Acetate	108656
Propylene Glycol Monomethyl Ether Acetate	108656
Propylene Gycol Methyl Ether Acetate	108656
1,3,5-Trimethylbenzene (Mesitylene)	108678
Diisobutyl Ketone	108838
Methylcyclohexane	108872
METHYL BENZENE	108883
TOLUENE	108883
CHLOROBENZENE	108907
Monochlorobenzene	108907
Cyclohexanol	108930
Cyclohexanone	108941
Phenol	108952
PHENOL (90%)	108952
Tetraethylene Glycol Dimethacrylate	109171
Dimethylamino Propylamine	109557
n-Propyl acetate	109604
PROPYL ACETATE	109604
N-pentane	109660
Pentane	109660
ETHYLENE GLYCOL METHYL ETHER	109864
Ethylene Glycol Monomethyl Ether	109864
Methyl Cellosolve	109864
METHYLAL, DIMETHOXYMETHANE	109875
Tetrahydrofuran	109999
Methyl Isoamyl Ketone	110123
2-BUTENEDIOIC ACID	110167
ISOBUTYL ACETATE	110190
Isobutyl Acetone	110190
Ethylbenzene	110414
2-Heptanone	110430
Methyl Amyl Ketone	110430
Methyl n-amyl Ketone	110430
2-METHOXYETHYLACETATE	110496
Methyl Cellosolve Acetate (EGMEA)	110496
HEXANE	110543
n-hexane	110543
Textile Spirits	110543
Ethylene Glycol Dimethyl Ether	110714
2-Ethoxyethanol	110805
Cellosolve (EGEE)	110805
Cellosolve Solvent	110805
Ethoxyethanol	110805
Ethylene Glycol Monoethyl Ether	110805
GLYCOL ETHER EE	110805
Cyclohexane	110827
MORPHOLINE	110918

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Chemical Name	CAS #
Cocoamidopropyl Betaine	70851079
Coconut Diethanolamine	68603429
Copper Naphthenate	1338029
Corvus Oil 00519-13	64742558
Cottonseed Oil (Gossypium Hirsutum)	8001294
Cresol	1319773
CRESOL 174	1319773
CRESOLS, MIXED	1319773
Cresylic acid	1319773
Crude Citrus Limonene	5989275
Cyclohexane	110827
Cyclohexanol	108930
Cyclohexanone	108941
Cyclomethicone	69430246
Cyclomethicone (DC 244)	69430246
Cyclomethicone (DC245/345)	69430246
CYCLOMETHICONE TETRAMER	69430246
Cythion Insecticide Concentrate	121755
D Limonene	5989275
D'LIMONENE	7705148
d-Limonene	68647723
D-Limonene	68917577
D-LIMONENE	58917577
D-Tert Butyl Phenyl Glycidyl Ether	3101608
Damar gum	9000162
DDVP	620737
DE	111900
Decahydronapthalene	91178
Decalin	91178
Decalin (Decahydronaphthalene)	91178
decamethylcyclopentasiloxane	541026
DEET	134623
DEET (Di Ethyl Toluamide)	134623
DEG Methyl Ether	111773
Denatured Ethyl Alcohol	64175
denatured ethyl alcohol (w/ camphor)	64175
Deodorized Kerosene	8008206
Deodorized Kerosene	64742967
DETA	111400
Dexpanthenol	81130
Di (2- Ethylhexyl Phthalate)	117817
Diacetone alcohol	123422
Dialkyl methyl benzylammonium chloride	73049759
Diazinon	333415
Diazinon MG-8	333415
Diazinon MG-8 Insecticide Concentrate	333415
Dibutyl Phthalate	84742
Dicetyl Diammonium	1812539
Dichlorodifluoromethane	75718
Dichlorodifluoromethane (CFC-12)	75434
Dichloromethane (Methylene chloride)	75092
Dichlorvos	62737
Diecyl Dimethyl Ammonium Chloride	7173515
Diesel Fuel	68476346
Diesel Fuel #2	64742442
Diethanolamine	111422
Diethyl Ether	60297
Diethylamine Salt of 2,4-dichlorophenoxy acetic acid	2008391
Diethylamine salt of 2,4-dichlorophenoxyacetic acd	94757
DIETHYLAMINOETHANOL	100378
Diethylene Glycol	114666
DIETHYLENE GLYCOL	111466
Diethylene glycol butyl ether	112345
Diethylene Glycol Butyl Ethers	111981
DIETHYLENE GLYCOL BUTYL ETHERS	111981
DIETHYLENE GLYCOL DIETHYL ETHER	112367
Diethylene Glycol Dimethyl Ether	111966

By CAS Number

Chemical Name	CAS #
2-ETHOXYETHYL ACETATE	111159
Cellosolve Acetate	111159
Ethylene Glycol Monoethyl Ether Acetate	111159
Glutaraldehyde (Pentanedial)	111308
DETA	111400
diethylene triamine	111400
Diethylenetriamine	111400
Diethanolamine	111422
DIETHYLENE GLYCOL	111466
N-OCTANE	111659
Octane	111659
2-Butoxyethanol	111762
Butoxyethanol	111762
Butyl cellosolve	111762
EB	111762
Ethanol, 2-butoxy	111762
Ethylene Glycol Monobutyl ether	111762
Ethylene Glycol N-Butyl Ether	111762
GLYCOL ETHER DPM	111762
GLYCOL ETHER EB	111762
N-BUTYL ETHER OF ETHYLENE GLYCOL	111762
Poly Solv EB	111762
DEG Methyl Ether	111773
diethylene glycol methyl ether	111773
Diethylene Glycol Monomethyl Ether	111773
Glycol Ether DM	111773
METHYL CARBITOL	111773
Polysolve DM	111773
Nonane	111842
Octanol	111875
2-(2-Ethoxyethoxy) ethanol	111900
Carbital DE	111900
Carbitol	111900
Carbitol Solvent	111900
DE	111900
diethylene glycol ethyl ether	111900
Diethylene Glycol Monoethyl Ether	111900
Ethoxydiglycol	111900
Glycol Ether De-Low Grav.	111900
Glycol Ether DR-Lo Grav.	111900
Poly Solv DE	111900
Diethylene Glycol Dimethyl Ether	111966
Diethylene Glycol Butyl Ethers	111981
DIETHYLENE GLYCOL BUTYL ETHERS	111981
2-Butoxyethyl Acetate	112072
Butyl Cellosolve Acetate	112072
ETHYLENE GLYCOL BUTYL ETHER ACETATE	112072
Methyl Nonyl Ketone	112129
Triethylene Glycol	112276
TRIETHYLENE GLYCOL	112276
2-(2-Butoxyethoxy)-Ethanol	112345
Butyl Carbitol	112345
Diethylene glycol butyl ether	112345
Diethylene Glycol Monobutyl Ether	112345
Diethylene Glycol N-Butyl Ether	112345
Glycol Ether (Butyl Carbitol)	112345
GLYCOL ETHER (BUTYL CARBITOL)	112345
Glycol Ether DB	112345
Poly Solv DB	112345
DIETHYLENE GLYCOL DIETHYL ETHER	112367
Undecenoic Acid	112389
Dodecane	112403
Triethylene Glycol Dimethyl Ether	112492
Tetraethylene Pentamine	112572
Tetraethylene Glycol	112607
Oleic Acid (9-octadecenoic acid)	112801
1 - Octadecanol	112925

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Chemical Name	CAS #
diethylene glycol ethyl ether	111900
diethylene glycol methyl ether	111773
DIETHYLENE GLYCOL METHYL ETHERS	89399280
Diethylene Glycol Monobutyl Ether	112345
Diethylene Glycol Monoethyl Ether	111900
Diethylene Glycol Monomethyl Ether	111773
Diethylene Glycol N-Butyl Ether	112345
DIETHYLENE GLYCOL PHENYL ETHER	104687
diethylene triamine	111400
Diethylenetriamine	111400
DIFLUOROETHANE	75376
Difluoromethane (HFC-32)	75105
Diglycolamine	929066
DIHYDROXY ACETONE	96264
Diisobutyl Ketone	108838
Diisopropyl Adipate (hexanedioic acid, bis (1-methylhexyl))	6938949
Dimethicone Copotyol	64365237
Dimethoate	60515
Dimethoate - Technical	60515
Dimethoate Insecticide Concentrate	60515
Dimethyl Adipate (hexanedioic acid, methyl ester)	627930
Dimethyl Benzene	1330207
Dimethyl Carbinol	67630
Dimethyl Ether	115106
Dimethyl Formamide	68122
Dimethyl Glutarate (Pentanedioic acid, dimethyl ester)	1119400
Dimethyl Ketone	67641
DIMETHYL PHENOL PHOSPHATE	25155231
DIMETHYL SILOXANE	63148629
Dimethyl Succinate (Butanedioic acid, dimethyl ester)	106650
Dimethyl Sulfoxide	67685
Dimethylamine	124403
Dimethylamine Salt of Dicamba	1918009
Dimethylamine Salt of MCPP	93652
Dimethylamino Propylamine	109557
Dimethylethanolamine	108010
Dioctyl Phthalate	117840
Dioctyl sebacate (Decanedioic acid, bis 2-ethyl hexyl ester)	122623
DIPENTENE (P-MENTHA-1,8-DIENE ?)	138863
Dipropylene glycol	25265718
Dipropylene glycol	25265718
dipropylene glycol ethyl ether	3459948
dipropylene glycol methyl ether	3459948
DIPROPYLENE GLYCOL METHYL ETHER	12002254
Dipropylene glycol monomethyl ether	13459948
Dipropylene Gycol Methyl Ether	34590948
Dipropylene Triamine	56188
Disodium Cocamide Mipa Sulfosuccinate	68515651
Disodium ethylene bisdithiocarbamate	142596
Disodium Laureth Sulfosuccinate	39354455
Distillates (Petroleum), Solvent-Rf Lt.Nap	64741895
DME	115106
Dodecane	112403
Dodecylbenzenesulfonate	25155300
Dodecyl Benzene Sulfonic Acid	27176870
Dodecylbenzene Sulfonate	27176870
Dow Corning 344	69430246
DOWANOL DPM	34590948
Dowanol PM Acetate	108656
Dowanol PM Glycol Ether	107982
Dursban	2921882
Dursban (Chlorpyrifos)	2921882
Dursban H.F. Insecticide Concentrate	2921882
Dursban HF	2921882
Dymel A	115106
EB	111762
EEP Solvent	763699

By CAS Number

Chemical Name	CAS #
2-(Methylethoxy)Phenol Methylcarbamate	114261
Diethylene Glycol	114666
2-PHENYLHYDRAZIDE ACETIC ACID	114830
Dimethyl Ether	115106
DME	115106
Dymel A	115106
METHYL ETHER	115106
Thiodan - Technical	115297
Amino Methyl Propanediol	115695
Triphenol Phosphate	115866
Di (2- Ethylhexyl Phthalate)	117817
Dioctyl Phthalate	117840
METHYL SALICYLATE	119368
o-benzyl-p-chlorophenol	120321
M-Pyrol (methyl pyrrolidine)	120945
N-Methypyrrolidone	120945
Pyrocide Intermediate 5192 (Pyrethrin)	121211
Triethylamine	121448
Cythion Insecticide Concentrate	121755
Malathion	121755
Malathion TE	121755
Malathion - Technical	121755
Stearalkonium chloride	122190
TRIETHYL PHOSPHITE	122521
Dioctyl sebacate (Decanedioic acid, bis 2-ethyl hexyl ester)	122623
ETHYLENE GLYCOL PHENYL ETHER	122996
Ethylene Glycol, Monophenyl Ether	122996
Glycol Ether EPH	122996
Phenoxyethanol	122996
Phenylglycol ether	122996
1,4-BENZENEDIOL	123319
Hydroquinone	123319
4-Hydroxy-4-Methyl-2-Pentanone	123422
Diacetone alcohol	123422
2,5-PYRROLIDINEDIONE	123568
ACETIC ACID, BUTYL ESTER	123864
Butyl acetate	123864
n-Butyl Acetate	123864
1,4-dioxane	123911
1-(2-butoxyethoxy)-2-propanol	124163
Carbon Dioxide	124389
Dimethylamine	124403
Aminomethyl Propanol	124685
Isobornyl Acetate (Bicyclo[2.2.1]heptan-2-ol, 1,7,7-trimethyl,-ac	125122
Isobornyl Acetate	125123
Tris (hydroxymethyl) nitromethane	126114
Neopentyl glycol (2,2-Dimethyl-1,3-Propanediol)	126307
1,1,2,2-Tetrachloroethylene	127184
Perchloroethylene	127184
Tetrachloroethylene	127184
Potassium dimethyldithiocarbamate	128030
Sodium Dimethyldithiocarbamate	128041
Captan	133062
Captan, Technical	133062
DEET	134623
DEET (Di Ethyl Toluamide)	134623
N,N-Diethyl-M-Toluamide	134623
METHYL CYANOACRYLATE	137053
HAMPOSYL L-30	137166
Hydrocarbon Detergent	137166
Tetramethylthiuran Disulfide	137268
Thiram - Technical	137268
DIPENTENE (P-MENTHA-1,8-DIENE ?)	138863
Bardac MB-50]	139082
TEA-Laurel Sulfate	139968
Benzyl Acetate	140114
12-Hydroxy Octadecanoic Acid Methyl Ester	141131

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Chemical Name	CAS #
EKTASOLVE	2807309
Ektasolve EP	2807309
Emcol 14	71012107
Epoxidized Soybean Oil	8013078
Epoxy Resin	28064144
Ethalfluralin	55283686
Ethane	74840
Ethanol	8024451
ETHANOL	64175
Ethanol (39C SDA)	8024451
ETHANOL (METHANOL DENATURED)	8013523
Ethanol SDA 39C	8024451
Ethanol, 2-butoxy	111762
Ethanolamine	141435
Ethanolamine Sulfite	15535292
Ethoxy Sulfate, Neodol 25-3S	68586342
Ethoxydiglycol	111900
Ethoxyethanol	110805
Ethoxylated Alcohol C12-15	68131395
Ethoxylated Alcohol C12-16	68551122
Ethoxylated Alcohol C12-16	68551122
Ethyl 3-Ethoxypropionate	763699
ETHYL 3ETHOXYPROPIONATE	7636699
Ethyl Acetate	141786
Ethyl Alcohol	64175
Ethyl Alcohol	97702170
Ethyl Alcohol SDA	64175
Ethyl Benzene	100414
Ethyl Ester of PVM/MA Copolymer (w/ethanol)	25087063
Ethyl Ether	60297
Ethyl-2-cyanoacrylate	7085850
Ethylbenzene	110414
Ethylcyanoacrylate	7085850
Ethylene	74851
Ethylene (bis) dithiocarbamate, disodium salt	142596
ETHYLENE DIAMINE	107153
Ethylene Diamine Tetra Acetate	60004
ETHYLENE DIAMINE TETRA ACETATE	60004
Ethylene Dichloride	107062
Ethylene Glycol	107211
ETHYLENE GLYCOL BUTYL ETHER ACETATE	112072
Ethylene Glycol Diethyl Ether	629141
Ethylene Glycol Dimethyl Ether	110714
ETHYLENE GLYCOL METHYL ETHER	109864
Ethylene Glycol Monobutyl ether	111762
Ethylene Glycol Monoethyl Ether	110805
Ethylene Glycol Monoethyl Ether Acetate	111159
Ethylene Glycol Monomethyl Ether	109864
Ethylene Glycol Monomethyl Ether Acetate	108656
Ethylene Glycol Monopropyl Ether	2807309
Ethylene Glycol N-Butyl Ether	111762
ETHYLENE GLYCOL PHENYL ETHER	122996
Ethylene Glycol, Monophenyl Ether	122996
Ethylene Glycol-n-propyl Ether	2807309
Ethylene Oxide (Oxirane)	75218
Ethylene/vinyl acetate polymer	24937788
Ethylfluoride (HFC-161)	353366
Ethyltoluenes	25550145
Eucalptus	8000484
Eugenol	97530
Fatty Diethanolamide	68604353
Ferbam	14484641
FORMALDEHYDE	50000
Formalin Formaldehyde	50000
Formic acid	64186
FORMIC ACID (90%)	64186
FREON 22 SOLVENT	75456

By CAS Number

Chemical Name	CAS #
2-Aminoethanol	141435
Ethanolamine	141435
ACETIC ACID ETHYL ESTER	141786
Ethyl Acetate	141786
MESITYL OXIDE (3-penten-2-one, 4-methyl?)	141797
Disodium ethylene bisdithiocarbamate	142596
Ethylene (bis) dithiocarbamate, disodium salt	142596
NABAM (Disodium Ethylene Bis Dithiocar-	142596
Heptane	142825
n-Heptane	142825
Sodium Oleate	143191
TRIETHYLENE GLYCOL MONOBUTYL ETHER	143226
Oleyl Alcohol	143282
2,2,4-Trimethyl-1,3-pentanediol	144194
Sodium Laureth Sulfate	151213
Sodium Lauryl Sulfate	151213
Wilcolate A	151213
2-Bromo-2-chloro-1,1,1-trifluoroethane	151677
Halothane	151677
TRIETHYLENEDIAMINE	280579
Chlorpyrifos	291882
1,1,1-Trifluoro-2,2-dichloroethane (HCFC-123)	306832
HCFC-123 (1,1,1-Trifluoro-2,2-dichloroethane)	306832
5 Bromo-3-Sec-Butyl Methyluracil	314409
Diazinon	333415
Diazinon MG-8	333415
Diazinon MG-8 Insecticide Concentrate	333415
O, O-dimethyl-O-phosphorothiate	333476
Ethylfluoride (HFC-161)	353366
HFC-161 (Ethylfluoride)	353366
1,2-Dichloro-1,1,2-trifluoroethane (HCFC-123a)	354234
HCFC-123a (1,2-Dichloro-1,1,2-trifluoroethane)	354234
HFC-125 (Pentafluoroethane)	354336
Pentafluoroethane (HFC-125)	354336
1,1,2,2-Tetrafluoroethane (HFC-134)	359353
HFC-134 (1,1,2,2-Tetrafluoroethane)	359353
1,1,1,3,3-Pentafluorobutane (HFC-365mfc)	406586
HFC-365mfc (1,1,1,3,3-Pentafluorobutane)	406586
1,1,1-Trifluoroethane (HFC-143a)	420462
HFC-143a (1,1,1-Trifluoroethane)	420462
3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	422560
HCFC-225ca (3,3-Dichloro-1,1,1,2,2-pentafluoropropane)	422560
1,1,1,2,3-Pentafluoropropane (HFC-245eb)	431312
HFC-245eb (1,1,1,2,3-Pentafluoropropane)	431312
1,1,1,2,3,3-Hexafluoropropane (HFC-236ea)	431630
HFC-236ea (1,1,1,2,3,3-Hexafluoropropane)	431630
1,1,1,3,3-Pentafluoropropane (HFC-245fa)	460731
HFC-245fa (1,1,1,3,3-Pentafluoropropane)	460731
CAMPHOR	464493
Indan	496117
1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	507551
HCFC-225cb (1,3-Dichloro-1,1,2,2,3-pentafluoropropane)	507551
Methylene Bis (4-Cyclohexylisocyanate)	512431
Ammonium Lactate (Propanoic acid, 2-hydroxy-monoammoniu	515980
1,2,3-Trimethylbenzene	526738
tetrahydro-3,5-dimethyl1-2-H-1,3,5-thiadiazine-2-e	533744
Butyl acetate	540885
decamethylcyclopentasiloxane	541026
9-Octadecenoic Acid (Z) Ammonium Salts	544605
Methyl isopropyl ketone	563804
2,4-DIISOCYANTO-1-METHYLBENZENE	584849
3-METHYLHEXANE	589344
4-Methyl heptane	589537
N-Butyl Propionate	590012
2-METHYLHEXANE	591764
2-Methyl heptane	592278
Chlorofluoromethane (HCFC-31)	593704

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Chemical Name	CAS #
FREON TF	76131
fuel oil no. 2	68476302
Furfuryl Alcohol	98000
Gamma-Aminipropyltriethoxysilane	919302
Gamma-Aminopropy/ Triethoxysilane	11919302
gamma-Butyrolactone	96480
Gantrez ES225	25087063
Glutaraldehyde (Pentanedial)	111308
Glycereth-7	31694550
Glycereth-7	31694550
Glycerin	56815
Glyceryl Thioglycolate	30618849
Glycol Ether (Butyl Carbitol)	112345
GLYCOL ETHER (BUTYL CARBITOL)	112345
GLYCOL ETHER ACETATE	108656
Glycol Ether DB	112345
Glycol Ether De-Low Grav.	111900
Glycol Ether DM	111773
Glycol Ether DPM	34590948
GLYCOL ETHER DPM	111762
Glycol Ether DR-Lo Grav.	111900
GLYCOL ETHER EB	111762
GLYCOL ETHER EE	110805
Glycol Ether EP	2807309
Glycol Ether EPH	122996
GLYCOL ETHER PM	107982
Glycol Methylene Ether (1,3-Dioxolane?)	646060
Glycolic Acid	79141
Gum Turpentine	8006642
GUM TURPENTINE	9005907
Halothane	151677
Halso AG125 Monochlorotoluene	25168052
HAMPOSYL L-30	137166
Han Solvent	64742069
HAN-857	64742069
HCFC-123 (1,1,1-Trifluoro-2,2-dichloroethane)	306832
HCFC-123a (1,2-Dichloro-1,1,2-trifluoroethane)	354234
HCFC-124 (2-Chloro-1,1,1,2-tetrafluoroethane)	2837890
HCFC-141b (1,1-Dichloro-1-fluoroethane)	25167888
HCFC-142b (1-Chloro-1,1-difluoroethane)	75683
HCFC-151a (1-Chloro-1-fluoroethane)	1615754
HCFC-22 (Chlorodifluoromethane)	75456
HCFC-225ca (3,3-Dichloro-1,1,1,2,2-pentafluoropropane)	422560
HCFC-225cb (1,3-Dichloro-1,1,2,2,3-pentafluoropropane)	507551
HCFC-31 (Chlorofluoromethane)	593704
Heavy Alkylate Naphtha	64741657
Heavy Alkylate Naphtha	64742657
Heavy Aromatic Naphtha Solvent	64742945
Heptane	142825
HEXAMETHYLENEDIAMINE	6898775
HEXANE	110543
Hexone	108101
Hexylene Glycol	107415
Hexylene glycol (2-Methyl-2,4-pentane diol)	107415
HFC 43-10mee (1,1,1,2,3,4,4,5,5,5-Decafluoropentane)	**********
HFC-125 (Pentafluoroethane)	354336
HFC-134 (1,1,2,2-Tetrafluoroethane)	359353
HFC-134a (1,1,1,2-Tetrafluoroethane)	811972
HFC-143a (1,1,1-Trifluoroethane)	420462
HFC-152a (1,1-Difluoroethane)	75376
HFC-161 (Ethylfluoride)	353366
HFC-23 (Trifluoromethane)	75467
HFC-236ea (1,1,1,2,3,3-Hexafluoropropane)	431630
HFC-236fa (1,1,1,3,3,3-Hexafluoropropane)	690391
HFC-245ca (1,1,2,2,3-Pentafluoropropane)	679867
HFC-245ea (1,1,2,3,3-Pentafluoropropane)	24270664
HFC-245eb (1,1,1,2,3-Pentafluoropropane)	431312

By CAS Number

Chemical Name	CAS #
HCFC-31 (Chlorofluoromethane)	593704
1-Ethyl-2-methylbenzene (o-Ethyltoluene)	611143
1-Ethyl-3-methylbenzene (m-Ethyltoluene)	620144
1-Methyl-3-ethylbenzene (m-Ethyltoluene)	620144
DDVP	620737
1-Ethyl-4-methylbenzene (p-Ethyltoluene)	622968
Dimethyl Adipate (hexanedioic acid, methyl ester)	627930
Amyl Acetate	628637
N-amyl acetate	628637
Primary Amyl Acetate	628637
Ethylene Glycol Diethyl Ether	629141
Glycol Methylene Ether (1,3-Dioxolane?)	646060
1,1,2,2,3-Pentafluoropropane (HFC-245ca)	679867
HFC-245ca (1,1,2,2,3-Pentafluoropropane)	679867
Silicic Acid (HASIO4), Tetrapropyl	682019
Tetrapropyl Orthosilicate	682019
1,1,1,3,3,3-Hexafluoropropane (HFC-236fa)	690391
HFC-236fa (1,1,1,3,3,3-Hexafluoropropane)	690391
Isopropylcyclohexane	696297
Bensulide	741562
S-O,O-Diisopropyl phosphorodithioate	741582
2-Ethyl-3 Ethanoxpropionate	763699
3-ETHYOXY PROPANOIC ACID ETHYL ESTER	763699
EEP Solvent	763699
Ethyl 3-Ethoxypropionate	763699
Propanoic Acid, 3-Ethoxy-Ethyl Ester	763699
1,1,1,2-Tetrafluoroethane (HFC-134a)	811972
HFC-134a (1,1,1,2-Tetrafluoroethane)	811972
1,6-DIISOCYANTO-HEXANE	822061
Pentachloronitrobenzene	826886
HYDROXYETHYL METHACRYLATE	868779
2-Methyl nonane	871830
1-METHYL-2-PYRROLIDONE	872504
m-pyrol	872504
N-Methyl -2- Pyrrolidone	872504
N-Methylpyrrolidone	872504
1-Propanamine, 3-(Triethoxysilyl)-	919302
Gamma-Aminipropyltriethoxysilane	919302
Diglycolamine	929066
1,3-Dimethyl-5-ethylbenzene	93474
N-Phosphonomethylglycine	107183
Dimethyl Glutarate (Pentanedioic acid, dimethyl ester)	111940
Undecane	112021
4,6-Dichloro-2-Trichloromethylpyridine	112919
Slane, Trimethoxymethyl-	118555
Xylenols - mixed	130071
Sodium Xylene Sulfonate	130072
Cresol	131977
CRESOL 174	131977
CRESOLS, MIXED	131977
Cresylic acid	131977
Dimethyl Benzene	133020
Xylene	133020
Xylene (Mixture)	133020
Xylene in technical - Methyl Parathion	133020
Xylene Mixed O, M, & P Isomers	133020
Sodium Lauryl Sulfate Ether	133572
Copper Naphthenate	133802
Lead Chromate (C.I. pigment yellow 34)	134437
n-Propoxypropanol	156901
a,a,a-trifluoro-s,6-dinitro-n,n-dipropyl-p-toluide	158209
Trifluralin	158209
2-Methoxy-1-Propanol	158947
Prometon	161018
Prometon - Technical	161018
1-Chloro-1-fluoroethane (HCFC-151a)	161575
HCFC-151a (1-Chloro-1-fluoroethane)	161575

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Chemical Name	CAS #
HFC-245fa (1,1,1,3,3-Pentafluoropropane)	460731
HFC-32 (Difluoromethane)	75105
HFC-365mfc (1,1,1,3,3-Pentafluorobutane)	406586
High Flash Naptha	68476799
Hydrocarbon Detergent	137166
HYDROCARBON PROPELLANT	68476868
Hydrocarbon Propellant A-17	106978
Hydrocarbon resin	68003510
HYDROCARBONS	64741737
Hydroquinone	123319
HYDROTREATED HEAVY NAPTHA (PETROLEUM)	64742489
hydrotreated light distillate	64742149
Hydrotreated Light Distillate	64742478
HYDROTREATED LIGHT DISTILLATE	64742478
Hydrotreated middle distillate	64742467
hydroxy alkylmethacrylate	27813021
Hydroxyacetic Acid	79141
HYDROXYETHYL METHACRYLATE	868779
Imazaquin	81335479
Indan	496117
Intrasol FA 12/18/5	22047490
Iodine	7553562
IPA	67630
Isobornyl Acetate	125123
Isobornyl Acetate (Bicyclo[2.2.1]heptan-2-ol, 1,7,7-trimethyl,-ac	125122
Isobutane	75285
Isobutane (A-31)	75285
ISOBUTANE/ PROPANE	68476857
isobutane/propane	68475592
Isobutane/Propane	68476868
Isobutanol	78831
ISOBUTYL ACETATE	110190
Isobutyl Acetone	110190
Isobutyl Alcohol	78831
Isobutyl Isobutyrate	97858
Isobutyl methacrylate	97869
Isobutylcyclohexane	1678984
Isohexadecane	15220856
Isohexane	107835
Isohexane	73513425
Isomeric Hydrocarbons	68551188
Isopar C	64742489
Isopar E	64742489
Isopar G	64742489
Isopar H	64742489
Isopar K	64742489
Isopar L	64742489
Isopar M	64742478
ISOPARAFFIN HYDROCARBON	64741657
ISOPARAFFINIC PETROLEUM	68551199
ISOPARAFFINIC SOLVENT	64742489
ISOPARRIFINIC PETROLEUM SOLVENT	8001603
Isophorone	78591
Isophorone Diamine	2855132
Isophorone diisocyanate	4098719
Isopropanol	67630
Isopropyl Acetate	108214
Isopropyl Alcohol	67630
Isopropyl Alcohol	26080191
Isopropyl Alcohol, Anhydrous	67630
Isopropyl Isosterate	68171335
ISOPROPYLAMINE	75310
Isopropylcyclohexane	696297
Kaydol Mineral Oil	8012951
KD COCO AMIDE	61791319
kerosene	80082061
Kerosene	9002059

By CAS Number

Chemical Name	CAS #
Methyl Tertiary Butyl Ether	1634044
Propylcyclohexane	1678928
Isobutylcyclohexane	1678984
Dicetyl Diammonium	1812539
Benefin	1861401
Atrazine - Tech	1912249
3,6-dichloro-o-anisic acid (Benzoic acid, 3,6 dichloro-2-methyo	1918009
Dimethylamine Salt of Dicamba	1918009
Nitrapyrin (Pyrridine, 2-chloro-6-trichloro methyl?)	1929824
2,4 Dichlorophenoxy Acetic Acid	2008391
2,4-D Dimethylamine salt	2008391
Diethylamine Salt of 2,4-dichlorophenoxy acetic acid	2008391
Phenyl Trimethicone	2116849
Monosodium Acid Methanearsonate	2163806
MSMA	2163806
Sodium Alkyl Benzene Sulfonate	2211985
1,2,4-Trimethylcyclohexane	2234755
Ammonium Lauryl Sulfate	2235543
1,4 Diglycidyloxybutane	2425798
Butanediol diglycidyl ether	2425798
Butyl Glycidyl Ether (Oxirane, butoxymethyl)	2426086
tetrohydofuran	2455245
Picloram, Potassium salt	2545600
OCTYL DIMETHYL AMINE OXIDE	2605789
2-methyl-4-isothiazoline-3-one	2682204
2-Propoxyethanol	2807309
EKTASOLVE	2807309
Ektasolve EP	2807309
Ethylene Glycol Monopropyl Ether	2807309
Ethylene Glycol-n-propyl Ether	2807309
Glycol Ether EP	2807309
Proplyene Glycol EP Solvent	2807309
PROPOXYETHANOL	2807309
2-Chloro-1,1,1,2-tetrafluoroethane (HCFC-124)	2837890
HCFC-124 (2-Chloro-1,1,1,2-tetrafluoroethane)	2837890
4-Methyl decane	2847725
Isophorone Diamine	2855132
Chlorpyrifos	2921882
Dursban	2921882
Dursban (Chlorpyrifos)	2921882
Dursban H.F. Insecticide Concentrate	2921882
Dursban HF	2921882
D-Tert Butyl Phenyl Glycidyl Ether	3101608
12-Hydroxy Octadecanoic Acid	3159624
12-HYDROXY-OCTADECANOIC ACID	3159624
2,2,4 TMO	3236531
2,2,4 Trimethylhexamethylenediamine	3236531
2,4,4 tirmethylhexamethylenediamine	3236542
dipropylene glycol ethyl ether	3459948
dipropylene glycol methyl ether	3459948
Piperalin	3478942
Isophorone diisocyanate	4098719
1-Methyl-2-propylcyclohexane	4291796
PENTAETHYLENE GLYCOL	4792158
Methylene bis(4-cyclohexylisocyanate)	5124301
1-Butoxy-2-propanol	5131668
2-Propanol-1-Butoxy	5131668
n- Butoxyypropanol	5131668
PROPYLENE GLYCOL MONOBUTYL ETHER	5131668
Ammonium Thioglycolate	5421465
Thioglycolate, Ammonium Salt	5421465
Tetrabutyl Titanate	5593704
Chlorpyrifos-methyl	5598130
2-(Tert-butylamino)-4-Chloro-6-Ethylamino-s-triazi	5915413
4-Isopropenyl 1-Methylcyclohexane	5989275
Citrus Distillate	5989275
Citrus Terpenes	5989275

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Chemical Name	CAS #
Kerosene	64742810
KEROSENE	64642478
Klearol Mineral Oil	8012951
L.P. Gas Propellant	68476868
Lactic Acid	50215
Lactic AcidEDTA	50215
Lactol Spirits	64741555
Lead Chromate (C.I. pigment yellow 34)	1344372
Lemon Oil	68916892
LIGHT ALIPHATIC NAPHTHA SOLVENT	64742898
LIGHT AROMATIC NAPHTHA SOLVENT	64742956
Light Distillate	64742149
Light naphtha	64742840
Light Naphtha	64742149
light petroleum distillate	64742749
LIGROINE	8032324
Lindane (hexachlorocyclohexane)	58899
LINEAR ALCOHOL ETHOXYLATE	69013189
LINSEED OIL	68001261
Liquid Petroleum Propellant	68476889
Liquified Petroleum Gas	68476857
LPA Petroleum Distillate	68551188
Lubricating Oil	64642525
M-cresol	108394
m-pyrol	872504
M-Pyrol (methyl pyrrolidine)	120945
Malathion	121755
Malathion TE	121755
Malathion - Technical	121755
Malic Acid (Butanedioic acid, hydroxy?)	6915157
Manalox Resin	13419153
Medium Aliphatic Solvent Naphtha	64742887
MEK	78933
Menthol	89781
Menthol	15356704
MESITYL OXIDE (3-penten-2-one, 4-methyl?)	141797
Meta Cresol 36/38	108394
Methacrylic Acid	31346573
Methacrylic Acid (2-methyl, 2-propenoic acid)	79414
Methane	74828
Methanoic acid	64186
Methanol	49120
Methanol	67561
Methanol Alcohol	67561
METHOXY PROPANOL ACETATE	108656
Methoxychlor	72435
Methoxymethyl Ethoxypropanol	34590948
Methoxypropanol	107982
Methyl Alcohol	67561
Methyl amyl alcohol	108112
Methyl Amyl Ketone	110430
METHYL BENZENE	108883
Methyl Benzoate	93583
Methyl Bis Hydroxyethyl Ammonium Methylsulfate	68410695
METHYL CARBITOL	111773
Methyl Cellosolve	109864
Methyl Cellosolve Acetate (EGMEA)	110496
Methyl chloroform (1,1,1-Trichloroethane)	71556
METHYL CYANOACRYLATE	137053
Methyl Dihydroxyethylisotridecyloxypropyl Ammonium	68610195
METHYL ETHER	115106
Methyl Ethyl Ketone	78933
Methyl Isoamyl Ketone	110123
Methyl Isobutyl Ketone	108101
Methyl isopropyl ketone	563804
Methyl methacrylate	80626
Methyl n-amyl Ketone	110430

By CAS Number

Chemical Name	CAS #
Crude Citrus Limonene	5989275
D Limonene	5989275
Orange Terpenes	5989275
Methylene bis (thiocyanate)	6317186
2,2,4-Trimethyl-1,3-pentanediol di-isobutyrate (Texanol iso-buty	6846500
Texanol iso-butyrate	6846500
HEXAMETHYLENEDIAMINE	6898775
Malic Acid (Butanedioic acid, hydroxy?)	6915157
Diisopropyl Adipate (hexanedioic acid, bis (1-methylhexyl))	6938949
2-Methyl decane	6975980
2-CYANO-2-PROPENOIC ACID ETHYL ESTER	7085850
Ethyl-2-cyanoacrylate	7085850
Ethylcyanoacrylate	7085850
Diecyl Dimethyl Ammonium Chloride	7173515
Iodine	7553562
12-Hydroxy Octadecanoic Acid Monolithium Salt	7620771
Sodium Molybdate	7631950
ETHYL 3ETHOXYPROPIONATE	7636699
D'LIMONENE	7705148
PETROLEUM	8000209
Oil Lavender	8000280
Clove Oil	8000348
Terpineol	8000417
Terpinol	8000417
Eucalptus	8000484
Boiled Linseed Oil	8001261
Cottonseed Oil (Gossypium Hirsutum)	8001294
Benzalkonium Chloride	8001545
BTC-8358 Stephan Company	8001545
N-Alkyl Dimethyl Benzyl Ammonium Chloride	8001545
Quaternary Ammonium Chloride	8001545
ISOPARRIFINIC PETROLEUM SOLVENT	8001603
CASTOR OIL	8001794
Pale Oil	8002059
Petroleum Distillate, Naphtha	8002059
Pine Oil	8002093
Terpene Hydrocarbons	8002093
Tall Oil	8002264
Paraffin Wax	8002742
Pyrenone CSE-10	8003347
Pyrethrins	8003347
Pyrethrum (PD-5 Residual)	8003347
Gum Turpentine	8006642
Steam Distilled Wood Turpentine	8006642
Turpentine	8006642
Aliphatic petroleum distillates	8008206
Deodorized Kerosene	8008206
Camphor Oil	8008513
Camphor yellow	8008513
Oil Camphor	8008513
Orange Oil	8008579
Spruce oil	8008808
Petrolatum	8009038
Oil of Pine Tar	8011481
Kaydol Mineral Oil	8012951
Klearol Mineral Oil	8012951
Paraffin Oil	8012951
Epoxidized Soybean Oil	8013078
ETHANOL (METHANOL DENATURED)	8013523
Oil Pettitgrain	8014173
Oil Spike	8016782
Spike (Lavender Oil, Spanish)	8016782
Mineral Oil	8020835
Ethanol	8024451
Ethanol (39C SDA)	8024451
Ethanol SDA 39C	8024451
Saponified Vegetable Oil (Green Soap)	8026708

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Chemical Name	CAS #
METHYL N-PROPYL KETONE	107879
METHYL NAPHTHALENE	65996794
Methyl Nonyl Ketone	112129
Methyl propyl ketone (2-Pentanone)	107879
METHYL SALICYLATE	119368
Methyl Tertiary Butyl Ether	1634044
METHYLAL, DIMETHOXYMETHANE	109875
Methylcyclohexane	108872
Methylcyclopentadienyl Manganese Tricarbonyl	12108133
Methylene Bis (4-Cyclohexylisocyanate)	512431
Methylene bis (thiocyanate)	6317186
Methylene bis(4-cyclohexylisocyanate)	5124301
Methylene Chloride	75092
Methylene chloride (Dichloromethane)	75092
MIBK	108101
MIDDLE DISTILLATE PETROLEUM SOLVENT EXTRACT	64742069
Mineral Oil	8020835
Mineral Oil	64741964
Mineral Oil	64742650
MINERAL OIL	64742525
Mineral Seal Oil	64741442
Mineral Seal Oil	64742309
Mineral Seal Oil	64742467
Mineral Seal Oil	64742809
MINERAL SEAL OIL	64741657
mineral spirits	80524137
Mineral spirits	62742887
Mineral spirits	68513031
Mineral Spirits	64475850
Mineral Spirits	64741324
Mineral Spirits	64741442
Mineral Spirits	64741657
Mineral Spirits	64742428
Mineral Spirits	64742488
Mineral Spirits	64742897
Mineral Spirits	64748478
Mineral Spirits	64761419
Mineral Spirits	80542413
Mineral Spirits	64742442
MINERAL SPIRITS	64642887
Mineral White Oil (Slab Oil)	8042475
Modified Polyethoxylated Alcohol	70321561
MODIFIED POLYETHOXYLATED ALCOHOL	70321561
Molybdate Orange	12656858
mono-Chlorotoluene	25168052
Monochlorobenzene	108907
Monochlorotoluene	25168052
Monosodium Acid Methanearsonate	2163806
Morpholine	68855547
MORPHOLINE	110918
MSMA	2163806
N, N-dimethylformamide	68122
N,N-Diethyl-M-Toluamide	134623
N,N-DIMETHYL-P-TOLUIDINE	99978
n- Butoxyypropanol	5131668
N-(1-Ethylpropyl -3,4-Dimethyl 2,6-Dinitrobenzenam	40487421
N-Alkyl Dimethyl Benzyl Ammonium Chloride	8001545
N-Alkyl Dimethyl Benzyl Ammonium Chloride	68424851
N-amyl acetate	628637
N-BUTANE	106978
n-butanol	71363
n-Butyl Acetate	123864
n-Butyl Alcohol	71363
N-BUTYL ETHER OF ETHYLENE GLYCOL	111762
N-Butyl Propionate	590012
n-Heptane	142825
n-hexane	110543

By CAS Number

Chemical Name	CAS #
NAPHTHA	8030306
Base Oil	8030309
Tallowammonium Trimethyl Chloride	8030782
LIGROINE	8032324
Petroleum Ether	8032324
VM & P NAPHTHA	8032324
Mineral White Oil (Slab Oil)	8042475
White Oil No. 9T	8042475
Turpentine Oil Resin	8052140
Aliphatic Hydrocarbon (Stoddard Type)	8052413
Stoddard Solvent	8052413
Asphalt	8052424
Damar gum	9000162
Kerosene	9002059
Polytetra fluoroethylene	9002840
Polyethylene	9002884
Octylphenyl Ethylene Oxide	9002931
Polybutene	9003296
Nitrocellulose	9004700
Sodium Laureth Ether Sulfate	9004824
Sodium Laureth Sulfate	9004824
Sodium Laureth-12 Sulfate	9004824
Sodium Lauryl Ether Sulfate	9004824
Polyethylene Glycol Dilaurate	9005021
POLYETHYLENE GLYCOL DILAURATE	9005021
GUM TURPENTINE	9005907
Turpentine	9005907
Polymethyl methacrylate	9011147
Alkylphenol Ethanol	9016459
Alkylphenol Ethoxylate	9016459
Nonylphenol Polyethoxylate	9016459
Octylphenol Ether	9036195
Polyoxyethylene Oxtyl Phenyl Ether	9036195
CIS 1,3-Dichloropropene	10061015
Trans 1,3-Dichloropropene	10061026
Triethanolamine Lauryl Sulfate	11178771
Gamma-Aminopropy/ Triethoxysilane	11919302
Zinc Napthenate	12001853
DIPROPYLENE GLYCOL METHYL ETHER	12002254
Methylcyclopentadienyl Manganese Tricarbonyl	12108133
Molybdate Orange	12656858
3-Methyl decane	13151343
5-Methyl decane	13151354
AROMATIC SOLVENT	13330207
Manalox Resin	13419153
PPG-2 Methyl Ether	13429077
Dipropylene glycol monomethyl ether	13459948
Tri (beta-chloropropyl) phosphate	13674845
Ferbam	14484641
Isohexadecane	15220856
Menthol	15356704
Ethanolamine Sulfite	15535292
4-Methyl nonane	17301949
2,6-Dimethylnonane	17302282
Benomyl	17804352
2-ETHYL OXY-BIS-HEXANOIC ACID	18268707
Tetrachloroisophtaianitrile	18947456
2-propanol, 1-[2-(2-methoxy-1-methylethoxy)-1-m...	20324338
Tripropylene Glycol Methyl Ether	20324338
1,4-bis-bromoacetoxy-2-butene	20679587
Camphor	21368683
Intrasol FA 12/18/5	22047490
Wickenol	22047490
1,1,2,3,3-Pentafluoropropane (HFC-245ea)	24270664
HFC-245ea (1,1,2,3,3-Pentafluoropropane)	24270664
Potassium Sorbate	24634615
1,1,3,3-Tetramethylcyclohexane	24770647

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Chemical Name	CAS #
N-Methyl -2- Pyrrolidone	872504
N-Methylpyrrolidone	872504
N-Methypyrrolidone	120945
N-OCTANE	111659
N-pentane	109660
N-Phosphonomethylglycine	1071836
n-Propanol	71238
n-Propoxypropanol	1569013
n-Propyl acetate	109604
N-Propyl Alcohol	71238
n-Propylbenzene	103651
N-vinyl-2-pyrrolidone	88120
NABAM (Disodium Ethylene Bis Dithiocar-	142596
NAPHTHA	8030306
Naphtha Heavy Alkylate	64741657
Naphtha Light Aliphatic	64742898
Naphtha, Heavy Aromatic	64742069
NAPHTHA, STRAIGHT RUN, HEAVY	64741419
Naphthalene	91203
Naphthenic Acid Lead Salt	61790145
Naphthol Spirits	64792489
Naptherie Distillate	64742525
Neopentyl glycol (2,2-Dimethyl-1,3-Propanediol)	126307
Neutral Base Oil	64741895
Niacinamide (3-pyrridine carboxamide)	98920
Nitrapyrin (Pyrridine, 2-chloro-6-trichloro methyl?)	1929824
Nitrocellulose	9004700
NITROETHANE	79243
Nitroglycerin (1,2,3-propanetriol, trinitrate)	55630
NITROMETHANE	75525
Nonane	111842
NONY PHENOL ETHYLENE OXIDE 6 MOLE	68412544
Nonyl Phenyl Ethylene Oxide 6M	68412544
Nonylphenol Polyethoxylate	9016459
Normal Butyl Alcohol	71363
Norpar 15	64771728
O, O-dimethyl-O-phosphorothiate	333476
O- Dichlorobenzene	95501
o-benzyl-p-chlorophenol	120321
O-CHLOROTOLUENE	95498
o-cresyl glycidyl ether	26447143
O-Nitrotoluene	88722
Octane	111659
Octanol	111875
OCTYL DIMETHYL AMINE OXIDE	2605789
Octyl Epoxy Tallate	61788725
Octylphenol Ether	9036195
Octylphenyl Ethylene Oxide	9002931
Odorless Mineral Spirits	61741657
Odorless Mineral Spirits	64741418
Odorless Mineral Spirits	64742657
ODORLESS MINERAL SPIRITS	64475850
ODORLESS MINERAL SPIRITS	64742488
Odorless Mineral Spirts	64741657
ODORLESS MINIERAL SPIRITS	64742150
Oil Camphor	8008513
Oil Lavender	8000280
Oil of Pine Tar	8011481
Oil Pettitgrain	8014173
Oil Spike	8016782
Oleic Acid (9-octadecenoic acid)	112801
Oleyl Alcohol	143282
Orange Oil	8008579
Orange Oil	68606940
Orange Oil Terpenes	68647723
Orange Oil Terpenes	68917577
Orange Terpene	68647723

By CAS Number

Chemical Name	CAS #
Ethylene/vinyl acetate polymer	24937788
Unsaturated Polyester Resin	25037665
PVP/VA Copolymer	25086899
Ethyl Ester of PVM/MA Copolymer (w/ethanol)	25087063
Gantrez ES225	25087063
DIMETHYL PHENOL PHOSPHATE	25155231
Dodecylbenzenesulfonate	25155300
Sodium Dodecylbenzene Sulfonate	25155300
1,1-dichloro-1-fluoroethane (HCFC-141b)	25167888
HCFC-141b (1,1-Dichloro-1-fluoroethane)	25167888
Halso AG125 Monochlorotoluene	25168052
mono-Chlorotoluene	25168052
Monochlorotoluene	25168052
Dipropylene glycol	25265718
Dipropylene glycol	25265718
2,2,4-TRIMETHYL -1,3-MONOISOBUTYRATE	25265774
2,2,4-Trimethyl-1,3-pentanediol-iso-butyrate	25265774
Texanol	25265774
ORTHODICHLOROBENZENE	25321226
Polyethylene Glycol	25322683
Polyglycol P-2000	25322694
Propylene Glycol	25322694
C12 Alpha Olefin	25378227
TRIPROPYLENE GLYCOL	25498491
Tripropylene Glycol Methyl Ether	25498491
Trimethylhexamethylenediamine	25513648
Ethyltoluenes	25550145
Aromatic 150	25551137
Tenneco 500/100	25551137
Trimethyl Benzene	25551137
Polyglycol Dimethacrylate	25852475
Isopropyl Alcohol	26080191
5-chloro-2-methyl-4-isothiazoline-3-one	26172554
Sodium Tridecylbenzene Sulfonate	26248248
Alkylaryl Sulfonate	26264051
Alkylaryl Sulfonate Isopropylamine Salt	26264051
o-cresyl glycidyl ether	26447143
Dodecyl Benzene Sulfonic Acid	27176870
Dodecylbenzene Sulfonate	27176870
2-Ethylhexyl Nitrate	27248967
2-METHYL-2-PROPENOIC ACID MONOESTER	27813021
hydroxy alkylmethacrylate	27813021
Epoxy Resin	28064144
Thiobencarb	28249776
Paraformaldehyde	30525894
Glyceryl Thioglycolate	30618849
Quaternary Ammonium Chloride	31075248
Methacrylic Acid	31346573
Glycereth-7	31694550
Glycereth-7	31694550
(MCPP) Dimethylamine salt	32351705
Propionic Acid	32351705
2-Methoxymethylethoxy Propanol	34590948
Dipropylene Gycol Methyl Ether	34590948
DOWANOL DPM	34590948
Glycol Ether DPM	34590948
Methoxymethyl Ethoxypropanol	34590948
Propanol, 1 (or 2) -2-methoxymethylethoxy)-	34590948
URETHANE DIMETHACRYLATE	39318699
Disodium Laureth Sulfosuccinate	39354455
3-4 Dimethyl- 2,6 Dinitribenzenamine	40487421
N-(1-Ethylpropyl -3,4-Dimethyl 2,6-Dinitrobenzenam	40487421
Acetamide, N, N'-(ethenylmethyl-silylene)Bis-N-Me	50791872
Permethrin (80 % concentrate)	52645531
Propionic Acid	53404312
Solvent Naphtha T500-100	54742956
Ethalfluralin	55283686

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Chemical Name	CAS #
Orange Terpenes	5989275
Orchex 796	72623848
ORTHO DICHLOROBENZENE	95501
ortho-phenylphenol	90437
ORTHODICHLOROBENZENE	25321226
Oxo-Heptyl Acetate	90438792
p-dichlorobenzene	106467
p-Menthadiene	68956569
P-Menthadienes	68956569
Pale Oil	8002059
Pale Oil	68476302
Panasol AN2K	63798787
Para-dichlorobenzene	106467
Parachlorobenzotrifluoride (PCBTF)	98566
Parachlorometoxylenol	88040
Paraffin Oil	8012951
Paraffin Wax	8002742
Paraffinic Distillate	64742650
PARAFFINIC PETROLEUM SOLVENT	64741895
Parafin series of hydrocarbon solvents	68466868
Paraformaldehyde	30525894
PCBTF (Parachlorobenzotrifluoride)	98566
Pentachloronitrobenzene	826886
PENTAETHYLENE GLYCOL	4792158
Pentafluoroethane (HFC-125)	354336
Pentane	109660
PERACETIC ACID	79210
Perchloroethylene	127184
Permethrin (80 % concentrate)	52645531
Petrolatum	8009038
PETROLEUM	8000209
petroleum distillate	68477316
Petroleum Distillate	64741442
Petroleum Distillate	64741657
Petroleum Distillate	64741862
Petroleum Distillate	64741908
Petroleum Distillate	64742376
Petroleum Distillate	68476302
Petroleum Distillate	68551155
PETROLEUM DISTILLATE	64741771
PETROLEUM DISTILLATE	64741964
Petroleum Distillate (Deodorized Kerosene)	64742149
Petroleum Distillate, Naphtha	8002059
Petroleum distillates	64742894
Petroleum distillates	64842898
Petroleum distillates	67472945
Petroleum Distillates	64741478
Petroleum Distillates	64742309
PETROLEUM DISTILLATES	64741975
PETROLEUM DISTILLATES	64742964
Petroleum Ether	8032324
Petroleum hydrocarbon	64742467
Petroleum Hydrocarbon Distillate	64741964
Petroleum Hydrocarbon Mix	61742945
PETROLEUM HYDROCARBON NAPHTHA	64741920
PETROLEUM HYDROCARBON OIL	64742525
Petroleum Middle Distillate	68476346
Petroleum Oil	64741895
Petroleum Oil	64742650
PETROLEUM OIL	64742467
Petroleum Process Oil	64742558
Petroleum Resin	64742161
Petroleum solvent	64771728
Petroleum Solvent	64741657
Phenol	108952
PHENOL (90%)	108952
Phenol Isopropylated, Phosphate	68937417

By CAS Number

Chemical Name	CAS #
3-METHYLMETHOXYBUTANOL	56539663
ButoxyPropanol	57018527
Propylene glycol T-Butyl Ether	57018527
Propylene glycol tertiary butyl ether	57018527
Clopyralid Monoethanolamine salt	57754855
D-LIMONENE	58917577
1-METHYL - 4 -(1-METHYLETHENYL) CYCLOHEXENE	59892725
Odorless Mineral Spirits	61741657
Petroleum Hydrocarbon Mix	61742945
Octyl Epoxy Tallate	61788725
Carsamide CA	61789193
Betaine	61789400
Cocamidopropyl Amino Betane	61789400
Alkali Surfactant	61790123
Naphthenic Acid Lead Salt	61790145
Barrium Sulfinate	61790485
Armak 1194	61791262
KD COCO AMIDE	61791319
Sodium Cocoyl Sarcosinate	61791591
Mineral spirits	62742887
DIMETHYL SILOXANE	63148629
Polydimethylsiloxane	63148629
Panasol AN2K	63798787
Dimethicone Copotyol	64365237
Mineral Spirits	64475850
ODORLESS MINERAL SPIRITS	64475850
KEROSENE	64642478
Lubricating Oil	64642525
MINERAL SPIRITS	64642887
Mineral Spirits	64741324
Odorless Mineral Spirits	64741418
NAPHTHA, STRAIGHT RUN, HEAVY	64741419
Aliphatic Petroleum Hydrocarbon	64741442
Mineral Seal Oil	64741442
Mineral Spirits	64741442
Petroleum Distillate	64741442
STRAIGHT RUN MIDDLE PETROLEUM	64741442
Petroleum Distillates	64741478
Lactol Spirits	64741555
ALIPHATIC HYDROCARBON	64741657
Aliphatic petroleum distillates	64741657
Alkylation Naphtha, heavy	64741657
C10-C11 PARAFFINS CYCLO-PARAFFINS	64741657
C9-C12 Saturated Hydrocarbons	64741657
Heavy Alkylate Naphtha	64741657
ISOPARAFFIN HYDROCARBON	64741657
MINERAL SEAL OIL	64741657
Mineral Spirits	64741657
Naphtha Heavy Alkylate	64741657
Odorless Mineral Spirts	64741657
Petroleum Distillate	64741657
Petroleum Solvent	64741657
SOL-71	64741657
Soltrol 145	64741657
Aromatic Hydrocarbon Solvent	64741680
ALIPHATIC DISTILLATE	64741737
HYDROCARBONS	64741737
PETROLEUM DISTILLATE	64741771
SOLVENT REFINED LIGHT NAPHTHA	64741840
Textile spirits	64741840
Petroleum Distillate	64741862
Sun Ag Oil 7N	64741884
Sunpar 110	64741884
Distillates (Petroleum), Solvent-Rf Lt.Nap	64741895
Neutral Base Oil	64741895
PARAFFINIC PETROLEUM SOLVENT	64741895
Petroleum Oil	64741895

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Chemical Name	CAS #
Phenoxyethanol	122996
Phenyl Trimethicone	2116849
Phenylglycol ether	122996
Picloram, Potassium salt	2545600
pine oil	98555
Pine Oil	8002093
Piperalin	3478942
Piperonyl Butoxide	51036
Piperonyl Butoxide, Technical	51036
PM Acetate	108656
PM Acetate	84540578
Poly Solv DB	112345
Poly Solv DE	111900
Poly Solv EB	111762
Polybutene	9003296
Polydimethylsiloxane	63148629
Polyethylene	9002884
Polyethylene Glycol	25322683
Polyethylene Glycol Dilaurate	9005021
POLYETHYLENE GLYCOL DILAURATE	9005021
Polyglycol 26-3	69029396
Polyglycol 26-3	69029396
Polyglycol Dimethacrylate	25852475
Polyglycol P-2000	25322694
Polyisobutylene Solution	64742400
Polymethyl methacrylate	9011147
Polyoxyethylene Oxtyl Phenyl Ether	9036195
Polysolve DM	111773
Polytetra fluoroethylene	9002840
Potassium dimethyldithiocarbamate	128030
Potassium Sorbate	24634615
PPG-2 Methyl Ether	13429077
Primary Amyl Acetate	628637
Process Oil	64742525
Prometon	1610180
Prometon - Technical	1610180
Propane	74986
PROPANE/BUTANE/ISOBUTANE	68476857
Propanoic Acid, 3-Ethoxy-Ethyl Ester	763699
Propanol, 1 (or 2) -2-methoxymethylethoxy)-	34590948
Propanone	67641
PROPELLANT A-108 - PROPANE	74986
Propionic Acid	32351705
Propionic Acid	53404312
Proplyene Glycol EP Solvent	2807309
PROPOXYETHANOL	2807309
PROPYL ACETATE	109604
Propyl Alcohol	71238
Propylbenzene	103651
Propylcyclohexane	1678928
Propylene Glycol	57556
Propylene Glycol	25322694
PROPYLENE GLYCOL METHYL ETHER	107556
PROPYLENE GLYCOL METHYL ETHER	107982
PROPYLENE GLYCOL MONOBUTYL ETHER	5131668
Propylene Glycol Monomethyl Ether	107982
Propylene Glycol Monomethyl Ether Acetate	108656
Propylene glycol T-Butyl Ether	57018527
Propylene glycol tertiary butyl ether	57018527
Propylene Gycol Methyl Ether Acetate	108656
PVP/VA Copolymer	25086899
Pyrenone CSE-10	8003347
Pyrethrins	8003347
Pyrethrum (PD-5 Residual)	8003347
Pyrocide Intermediate 5192 (Pyrethrin)	121211
Quarternary Blend (w/20% ethanol)	67784774
Quaternary Ammonium Chloride	8001545

By CAS Number

Chemical Name	CAS #
Sun Spray 6N	64741895
Petroleum Distillate	64741908
PETROLEUM HYDROCARBON NAPHTHA	64741920
Mineral Oil	64741964
PETROLEUM DISTILLATE	64741964
Petroleum Hydrocarbon Distillate	64741964
PETROLEUM DISTILLATES	64741975
SOLVENT REFINED LIGHT NAPHTHENIC DISTILLATE	64741975
Aromatic Petroleum Distillate	64741986
Han Solvent	64742069
HAN-857	64742069
MIDDLE DISTILLATE PETROLEUM SOLVENT EXTRACT	64742069
Naphtha, Heavy Aromatic	64742069
2251 Oil (or 2263 Oil @ 64742-47-8)	64742149
hydrotreated light distillate	64742149
Light Distillate	64742149
Light Naphtha	64742149
Petroleum Distillate (Deodorized Kerosene)	64742149
ODORLESS MINIERAL SPIRITS	64742150
Petroleum Resin	64742161
Mineral Seal Oil	64742309
Petroleum Distillates	64742309
SUN GOLDEN OIL #91 (SUN OIL CO.)	64742343
Petroleum Distillate	64742376
Polyisobutylene Solution	64742400
Mineral Spirits	64742428
Diesel Fuel #2	64742442
MIneral Spirits	64742442
Hydrotreated middle distillate	64742467
Mineral Seal Oil	64742467
Petroleum hydrocarbon	64742467
PETROLEUM OIL	64742467
C10-15 Saturated Hydrocarbon	64742478
Hydrotreated Light Distillate	64742478
HYDROTREATED LIGHT DISTILLATE	64742478
Isopar M	64742478
Mineral Spirits	64742488
ODORLESS MINERAL SPIRITS	64742488
C11-13 ISOPARAFFIN	64742489
HYDROTREATED HEAVY NAPTHA (PETROLEUM)	64742489
Isopar C	64742489
Isopar E	64742489
Isopar G	64742489
Isopar H	64742489
Isopar K	64742489
Isopar L	64742489
ISOPARAFFINIC SOLVENT	64742489
MINERAL OIL	64742525
Naptherie Distillate	64742525
PETROLEUM HYDROCARBON OIL	64742525
Process Oil	64742525
Corvus Oil 00519-13	64742558
Petroleum Process Oil	64742558
Mineral Oil	64742650
Paraffinic Distillate	64742650
Petroleum Oil	64742650
Heavy Alkylate Naphtha	64742657
Odorless Mineral Spirits	64742657
light petroleum distillate	64742749
Mineral Seal Oil	64742809
Safety Solvent	64742809
Safety Solvent 200	64742809
Kerosene	64742810
Light naphtha	64742840
Aliphatic Petroleum Distillate	64742887
Medium Aliphatic Solvent Naphtha	64742887
Petroleum distillates	64742894

CARB CHEMICAL NAME/CAS NUMBER LIST

Alphabetical Order

Chemical Name	CAS #
Quaternary Ammonium Chloride	31075248
Refined Petroleum Distillate	92045379
RESIN A-BENZYL	100516
S&S, Di-Me,Hydroxy-Terminated UVCB	70131678
S-O,O-Diisopropyl phosphorodithioate	741582
Safety Solvent	64742809
Safety Solvent 200	64742809
SAFROLE #	94597
Saponified Vegetable Oil (Green Soap)	8026708
SD 40 Alcohol	97702180
SD Alcohol 38	64175
SD Alcohol 40	64175
SD-Alcohol	64175
SDA	64175
SDA-38B	64175
SDA-40 (Denatured Alcohol)	64175
SDA-40B Alcohol (Ethanol)	64175
Sec-butanol	78922
sec-Butyl alcohol	78922
Silanamine, 1,1,1-Trimethyl-n-(Trimethylsilyl)	68909206
Silicic Acid (HASIO4), Tetrapropyl	682019
Slane, Trimethoxymethyl-	1185553
Sodium Alkyl Benzene Sulfonate	2211985
Sodium Cocoyl Sarcosinate	61791591
Sodium Dimethyldithiocarbamate	128041
Sodium Dodecylbenzene Sulfonate	25155300
Sodium Laureth Ether Sulfate	9004824
Sodium Laureth Sulfate	151213
Sodium Laureth Sulfate	9004824
Sodium Laureth-12 Sulfate	9004824
Sodium Lauryl Ether Sulfate	9004824
Sodium Lauryl Sulfate	151213
Sodium Lauryl Sulfate Ether	1335724
Sodium Molybdate	7631950
Sodium Oleate	143191
Sodium Pareth-25 Sulfate (w/11% ethanol)	68891383
Sodium Tridecylbenzene Sulfonate	26248248
Sodium Xylene Sulfonate	1300727
SOL-71	64741657
Soltrol 145	64741657
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742899
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64752898
Solvent Naphtha T500-100	54742956
SOLVENT REFINED LIGHT NAPHTHA	64741840
SOLVENT REFINED LIGHT NAPHTHENIC DISTILLATE	64741975
Sorbitol (D-Gluticol, C6H14O6)	50704
SORBITOL (D-Gluticol, C6H14O6)	50704
Spike (Lavender Oil, Spanish)	8016782
Spruce oil	8008808
Standard Denatured Alcohol	77021810
Steam Distilled Wood Turpentine	8006642
Stearalkonium chloride	122190
Stoddard Solvent	8052413
STRAIGHT RUN MIDDLE PETROLEUM	64741442
STYRENE (ethenyl benzene)	100425
Sulfonated Castor Oil	68187768
Sun Ag Oil 7N	64741884
SUN GOLDEN OIL #91 (SUN OIL CO.)	64742343
Sun Spray 6N	64741895
Sunpar 110	64741884
SWEETENED LIQUIFIED PETROLEUM GAS	68476858
T 500-100	68920069
T-Amyl Alcohol	75854
T-Butyl Alcohol	75650
T-Mulz 2900, Harcos, Kansas	69980741
Tall Oil	8002264
Tallow Imid Methosulfate	68122861

By CAS Number

Chemical Name	CAS #
V.M.& P. Naphtha	64742896
Mineral Spirits	64742897
LIGHT ALIPHATIC NAPHTHA SOLVENT	64742898
Naphtha Light Aliphatic	64742898
ALIPHATIC HYDROCARBON	64742899
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742899
VM & P Naptha	64742899
Aromatic Petroleum Distillates	64742907
Heavy Aromatic Naphtha Solvent	64742945
Xylene-range aromatic solvent	64742954
LIGHT AROMATIC NAPHTHA SOLVENT	64742956
Aliphatic Hydrocarbon	64742963
PETROLEUM DISTILLATES	64742964
aliphatic petroleum distillate	64742967
Deodorized Kerosene	64742967
Aliphatic Hydrocarbon	64742977
Mineral Spirits	64748478
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64752898
Mineral Spirits	64761419
Aliphatic Hydrocarbon	64771728
Norpar 15	64771728
Petroleum solvent	64771728
Naphthol Spirits	64792489
Petroleum distillates	64842898
Alkali Surfactant NM	64972196
METHYL NAPHTHALENE	65996794
Petroleum distillates	67472945
Quarternary Blend (w/20% ethanol)	67784774
Coco Diethanolamide-sulfonate	67785119
Coco Diethanolamide	67785131
Bismuth Octoate	67874719
Triton	67923879
Triton X-200	67923879
LINSEED OIL	68001261
Hydrocarbon resin	68003510
Tallow Imid Methosulfate	68122861
Tallow Imid Methosulfate	68122861
C12-C15 Ethoxylated Alcohol	68131395
Ethoxylated Alcohol C12-15	68131395
Cocoamidopropyl Amine Oxide 35%	68155099
Isopropyl Isosterate	68171335
Sulfonated Castor Oil	68187768
Aliphatic petroleum distillates	68334305
Alkyl Dimethyl Benzyl Ammonium Chloride	68391015
Alkyl dimethylbenzylammonium chloride	68391015
BTC-2125M 80% Stephan Company	68391015
BTC-8249 Stephan Company	68391015
Methyl Bis Hydroxyethyl Ammonium Methylsulfate	68410695
NONY PHENOL ETHYLENE OXIDE 6 MOLE	68412544
Nonyl Phenyl Ethylene Oxide 6M	68412544
benzyl ammonium chloride	68424851
Benzylkonium Chloride (w/ 20% ethanol)	68424851
N-Alkyl Dimethyl Benzyl Ammonium Chloride	68424851
Bardac 208M Lonza	68424955
Alcohol Ethoxylate	68439509
Alkyl Olefin Sulfonate	68439576
Alkyl Olefin Sulfonate, Sodium Salt	68439576
Parafin series of hydrocarbon solvents	68466868
C3-C4 Alkane Propellant	68475592
C3-C4 Propellent	68475592
isobutane/propane	68475592
fuel oil no. 2	68476302
Pale Oil	68476302
Petroleum Distillate	68476302
#2 Diesel Fuel	68476346
Diesel Fuel	68476346
Petroleum Middle Distillate	68476346

CARB CHEMICAL NAME/CAS NUMBER LIST

Alphabetical Order

Chemical Name	CAS #
Tallow Imid Methosulfate	68122861
Tallowammonium Trimethyl Chloride	8030782
TEA-Laurel Sulfate	139968
Technical piperonly butoxide	51036
Tenneco 500/100	25551137
Terpene	68956569
TERPENE ALCOHOLS	98555
Terpene Hydrocarbons	8002093
Terpineol	8000417
Terpinol	8000417
TERT-BUTYL ALCOHOL	75650
Tetrabutyl Titanate	5593704
Tetrachloroethylene	127184
Tetrachloroisophtaianitrile	18947456
Tetraethylene Glycol	112607
Tetraethylene Glycol Dimethacrylate	109171
Tetraethylene Pentamine	112572
tetrahydro-3,5-dimethyl1-2-H-1,3,5-thiadiazine-2-e	533744
Tetrahydrofuran	109999
TETRAHYDROFURFURYL ALCOHOL	97994
Tetramethylthiuran Disulfide	137268
Tetrapropyl Orthosilicate	68209
Tetrapropyl Orthosilicate	682019
Tetrasodium EDTA	64028
tetrohydofuran	2455245
Texanol	25265774
Texanol iso-butyrate	6846500
Textile spirits	64741840
Textile Spirits	110543
Thiobencarb	28249776
Thiodan - Technical	115297
Thioglycolate, Ammonium Salt	5421465
Thioglycolic Acid	68111
Thiram - Technical	137268
TOLUENE	108883
Trans 1,3-Dichloropropene	10061026
trans-Decalin	49327
Tri (beta-chloropropyl) phosphate	13674845
Tributoxy Ethyl Phosphate	78513
TRIBUTOXY ETHYL PHOSPHATE	78513
Tributoxyethyl Phosphate	78513
Trichlorfon	52686
Trichloroethylene	79016
Trichlorofluoromethane (CFC-11)	75694
Trichlorotrifluoroethane (CFC-113)	76131
Triethanolamine	102716
Triethanolamine Lauryl Sulfate	11178771
TRIETHYL PHOSPHITE	122521
Triethylamine	121448
Triethylene Glycol	112276
TRIETHYLENE GLYCOL	112276
Triethylene Glycol Dimethyl Ether	112492
TRIETHYLENE GLYCOL MONOBUTYL ETHER	143226
Triethylene Tetramine	68919799
TRIETHYLENEDIAMINE	280579
Trifluoromethane (HFC-23)	75467
Trifluralin	1582098
Trimethyl Benzene	25551137
Trimethylhexamethylenediamine	25513648
Triphenol Phosphate	115866
TRIPROPYLENE GLYCOL	25498491
Tripropylene Glycol Methyl Ether	20324338
Tripropylene Glycol Methyl Ether	25498491
Tris (hydroxymethyl) nitromethane	126114
Triton	67923879
Triton X-200	67923879
Turpentine	8006642

By CAS Number

Chemical Name	CAS #
High Flash Naptha	68476799
A-70 Hydrocarbon Propellant	68476857
ISOBUTANE/ PROPANE	68476857
Liquified Petroleum Gas	68476857
PROPANE/BUTANE/ISOBUTANE	68476857
SWEETENED LIQUIFIED PETROLEUM GAS	68476858
HYDROCARBON PROPELLANT	68476868
Isobutane/Propane	68476868
L.P. Gas Propellant	68476868
Liquid Petroleum Propellant	68476889
Aromatic 200 Solvent	68477316
AROMATIC HYDROCARBON SOLVENT	68477316
AROMATIC PETROLEUM DISTILLATE	68477316
petroleum distillate	68477316
Mineral spirits	68513031
Butane, branched and linear	68513655
C9-C12 Alkylbenzenes	68515253
Disodium Cocamide Mipa Sulfosuccinate	68515651
Ethoxylated Alcohol C12-16	68551122
Ethoxylated Alcohol C12-16	68551122
Petroleum Distillate	68551155
C9-11 ISOPARAFFIN	68551166
C11-12 Isoparaffin	68551177
C11-13 Isoparaffin Solvent	68551177
Isomeric Hydrocarbons	68551188
LPA Petroleum Distillate	68551188
ISOPARAFFINIC PETROLEUM	68551199
Ethoxy Sulfate, Neodol 25-3S	68586342
C-8/C-10 Alcohol	68603156
Coconut Diethanolamine	68603429
Fatty Diethanolamide	68604353
Orange Oil	68606940
2-Ethanolhexanol distillates	68609687
Alkyl Glycidyl Ether	68609972
Methyl Dihydroxyethylisotridecyloxypropyl Ammonium	68610195
d-Limonene	68647723
Orange Oil Terpenes	68647723
Orange Terpene	68647723
Morpholine	68855547
Sodium Pareth-25 Sulfate (w/11% ethanol)	68891383
Silanamine, 1,1,1-Trimethyl-n-(Trimethylsilyl)	68909206
Witch Hazel	68916392
Witch Hazel Distillate	68916392
Witch Hazel Distillate	68916781
Lemon Oil	68916892
D-Limonene	68917577
Orange Oil Terpenes	68917577
Triethylene Tetramine	68919799
T 500-100	68920069
Phenol Isopropylated, Phosphate	68937417
p-Menthadiene	68956569
P-Menthadienes	68956569
Terpene	68956569
Alkyl Dimethyl Ethyl Benzyl Ammonium Chloride	68956790
LINEAR ALCOHOL ETHOXYLATE	69013189
Polyglycol 26-3	69029396
Polyglycol 26-3	69029396
Cyclomethicone	69430246
Cyclomethicone (DC 244)	69430246
Cyclomethicone (DC245/345)	69430246
CYCLOMETHICONE TETRAMER	69430246
Dow Corning 344	69430246
T-Mulz 2900, Harcos, Kansas	69980741
S&S, Di-Me,Hydroxy-Terminated UVCB	70131678
X 22-160	70131678
Modified Polyethoxylated Alcohol	70321561
MODIFIED POLYETHOXYLATED ALCOHOL	70321561

CARB CHEMICAL NAME/CAS NUMBER LIST

Alphabetical Order

Chemical Name	CAS #
Turpentine	9005907
Turpentine Oil Resin	8052140
Undecane	1120214
Undecenoic Acid	112389
Unsaturated Polyester Resin	25037665
URETHANE DIMETHACRYLATE	39318699
V.M.& P. Naphtha	64742896
Vegetable Glycerin	56815
Vinyl acetate	108054
VM & P NAPHTHA	8032324
VM & P Naptha	64742899
White Oil No. 9T	8042475
Wickenol	22047490
Wilcolate A	151213
Witch Hazel	68916392
Witch Hazel Distillate	68916392
Witch Hazel Distillate	68916781
Witch Hazel Distillate	84696195
Witch Hazel Extract	84696195
X 22-160	70131678
Xylene	108383
Xylene	1330207
Xylene (Mixture)	1330207
Xylene (o)	95476
XYLENE (p)	106423
Xylene in technical - Methyl Parathion	1330207
Xylene Mixed O, M, & P Isomers	1330207
Xylene-range aromatic solvent	64742954
Xylenols - mixed	1300716
Xylol (p)	106423
Zinc Napthenate	12001853

By CAS Number

Chemical Name	CAS #
2-Methoxy-1-Propanol Acetate	70657704
Cocoamidopropyl Betaine	70851079
Emcol 14	71012107
Orchex 796	72623848
Dialkyl methyl benzylammonium chloride	73049759
Isohexane	73513425
Standard Denatured Alcohol	77021810
kerosene	80082061
mineral spirits	80524137
Mineral Spirits	80542413
Imazaquin	81335479
PM Acetate	84540578
Witch Hazel Distillate	84696195
Witch Hazel Extract	84696195
c6-oxo Alcohol Acetate	88230357
DIETHYLENE GLYCOL METHYL ETHERS	89399280
Alkyl Acetate	90438792
Oxo-Heptyl Acetate	90438792
Refined Petroleum Distillate	92045379
Ethyl Alcohol	97702170
SD 40 Alcohol	97702180
1,1,1,2,3,4,4,5,5,5-Decafluoropentane (HFC 43-10mee)	**********
HFC 43-10mee (1,1,1,2,3,4,4,5,5,5-Decafluoropentane)	**********
1-Ethoxy-1,1,2,2,3,3,4,4,4-nonfluorobutane (C4F9OC2H5)	**********
C4F9OC2H5 (1-Ethoxy-1,1,2,2,3,3,4,4,4-nonfluorobutane)	**********
2-(Ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane	**********
2-(Ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane	**********
1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C4F9OCH3)	**********
C4F9OCH3 (1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane)	**********
2-(Difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane	**********
2-(Difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane	**********

About the ChemFinder WebServer Project

On the face of it, a way to search for chemical compounds over the World Wide Web is not a novel concept. WWW-based chemical search engines (the original Macintosh version of the ChemFinder WebServer among them) have existed since at least mid-1995. General-purpose databases of WWW contents (such as Yahoo and Alta Vista) have existed far longer. So what's the deal with this ChemFinder WebServer?

The key, you might say, is in the chemistry. It's one thing to pop over to Lycos and do a search for all references to Aluminum Hydroxide. It's another thing to actually find them -- especially if the information you want is at a site in Australia under the listing Aluminium Hydroxide. Or if there is simply a passing mention of the compound with CAS RN 21645-51-2. Or a compound with the molecular formula $Al(OH)_3$.

By working from a single master list of chemical compounds, the ChemFinder WebServer avoids these problems, and lets you find the information you want, faster. In generating this database, we have also taken pains to identify and correct the obvious errors (like 'mehtyl', as well as invalid CAS RNs) that account for 3-5% of of all chemical information on the WWW. Very likely we have introduced some new and exciting mistakes of our own, but we are confident that the overall quality of the ChemFinder WebServer data far surpasses the bulk of the information that it indexes.

Because the ChemFinder WebServer is a chemical database, it can also provide information that a general-purpose WWW index cannot, including physical property data and 2D chemical structures. This information is somewhat sparse at the moment, but is very good for the several thousand most-common compounds. We are constantly working on getting more data, and we expect the ChemFinder WebServer only to keep improving.

As an almost-incidental side benefit, the list of sites indexed is also the largest single list of chemical

Appendix A - 1998 Survey Questionaire

information sites (by at least double the size of the next-largest) that we are aware of.

Technical Specifications

The ChemFinder WebServer is currently running on a 266 MHz Pentium II machine. It uses WebSite 1.1 to communicate with ChemDraw Pro 4.5 and ChemFinder Pro 4.0 via a Visual Basic CGI. There are over 75,000 unique substances indexed in the ChemFinder WebServer database from over 350 sites, and these numbers change on a continual basis.

Return to searching

ChemFinder
Instructions
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Restrictions
Indexed Sites
Add URL
Glossary
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ChemClub.Com

General Searching Instructions -- Simple Search Form

The Simple query form of the ChemFinder WebServer is designed to make it as easy as possible to locate common types of chemical information. You may enter a chemical **name**, **formula**, **molecular weight**, or **CAS Registry Number**. The ChemFinder WebServer will identify the type of search you want, and provide the hits accordingly. To view in ChemDraw or Chem3D the chemical structures of the compounds you find, you will also need to configure your browser to view chemical structures in ChemDraw or Chem3D.

If you plan on regularly viewing chemical structures in ChemDraw or Chem3D, you probably want to use the Plug-In-enhanced version of the ChemFinder WebServer, which offers more precise control over search terms as well.

Name

Name searches will look for your standard chemical names, such as '1,4-dimethylbenzene' or 'cyclobutadiene'. An asterisk (*) serves as a wildcard, allowing the creation of "name starts with", "name ends with", and "name contains" searches. For example, '*benzene' will match '1,2-dichlorobenzene'.

The ChemFinder Webserver is *very* tolerant of typographic variations in names. All of '1,2-dichlorobenzene', '1 2 dichlorobenzene', and '1.2dichloro benzene' (and many others) will match '1,2-dichlorobenzene'. Even more-complicated variations will be recognized: 'acetic acid, sodium salt' is a perfectly reasonably search string for 'sodium acetate'. 'Cupric chloride' will match 'copper (II) chloride' and so on. This intelligence is far from absolute, but it should greatly increase the chances of your finding the information you want on the first try.

Formula

Formula searches are, foremost, case **in**sensitive. 'c6h6' works as well as 'C6H6' and 'c6H6'. It is possible to enter an ambiguous formula ('cooh' is interpreted as 'COOH', not 'CoOH'), so if you have problems, use

proper capitalization.

Formula searches also support ranges of elements. A query like 'C6Cl1-6' will find all chlorinated benzenes (and possibly a bunch of other stuff as well). It is perfectly reasonable to use zero in a range. A query like 'c4h10o0-1' will find both butane and butanol (and possibly other stuff).

Note that not all structures in the database currently have chemical formulas assigned.

Molecular Weight

MW searches understand significant digits, so a search for 'MW is 100' will find all compounds whose molecular weight is > 99.5 and < 100.5.

Note that not all structures in the database currently have molecular weights assigned.

CAS Registry Number

CAS Registry Number searches attempt to locate a substance by its Chemical Abstracts Service Registry Number. The standard format for a CAS RN is xxxxxx-xx-x, but the ChemFinder Webserver will recognize the same number as valid even without the dashes. Leading zeroes are optional. Since the last digit of each CAS RN is a built-in checksum, the ChemFinder Webserver is able to recognize many of the more common mistypings.

Return to searching

CambridgeSoft ChemFinder.Com ChemStore.Com ChemNews.Com ChemClub.Com
ChemQuote.Com ChemACX.Com SciStore.Com ChemSell.Com

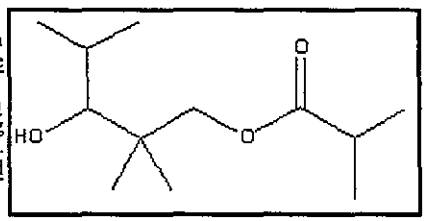
2,2,4-trimethyl-1,3-pentanediol isobutyrate [25265-77-4]

Synonyms: Texanol; Propanoic acid, 2-methyl-, monoester with 2,2,4-trimethyl-1,3-pentanediol; 2,2,4-Trimethyl-1,3-pentanediolmono(2-methylpropanoate); 2,2,4-Trimethyl-1,3-pentanediol monoisobutyrate; isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol

$C_{12}H_{24}O_3$
216.32

This picture is a live chemical image

The ChemDraw Plugin lets you search by drawing structures in your web browser. Have you downloaded it yet?



BUY

Melting Point (°C)	--	Specific Gravity	0.95
Boiling Point (°C)	244	Vapor Density	--
Evaporation Rate	--	Water Solubility	--
Flash Point (°C)	--	EPA Code	--
DOT Number	--	RTECS	UF6000000
Comments	Solvent.		

Add Property

ChemInfo Searching is faster and more powerful. Click Here.

More information about this compound is available from

Add Link

8(e) TRIAGE Chemical Studies Database
Available Chemicals Exchange
Information about this particular substance
NFPA Chemical Hazard Labels
Information about this particular substance

Return to searching

Appendix B:
Key Tables from 1993 Survey

The following are key tables excerpted from the final report of the ARB's 1993 architectural coatings survey, entitled *Survey of Emissions from Solvent Use, Volume II: Architectural Coatings*, September 1994.

Appendix B - Key Tables From 1993 Survey

1990 ARB AIM Coating Survey

Table 1a. California Based Companies Reporting 1990 Sales of Architectural and Industrial Maintenance Coatings

AC Products, Inc.	L. M. Scofield Company
Ameritone Paint Corporation	Lahabra Products, Inc.
Ameron PCD	Life Paint Company
Behr Process Corporation	Lyle Van Patten Company, Inc.
Benjamin Moore & Company	Major Paint Company
Bithell, Inc. / Virtrochem	Morton International, Inc.
Cal Western Paints, Inc.	Norton & Son of California, Inc.
Contract Coatings Corporation	Old Quaker Paint Company
Corchem Corporation	Parks Corporation
D. J. Simpson Company, Inc. DBA Simpson Coatings Group, Inc.	Performance Coatings, Inc.
Davis Colors	Pervo Paint Company
Davlin Paint Company	Pierce & Stevens Corporation
Decratrend Paints	Pioneer Coatings Co.
Deft, Inc.	Ponderosa Paint Co.
Devoe Coatings Co.	Preserva-Products, Inc.
Duckback Products, Inc.	Pride Paint Company
Dunn-Edwards Corporation	R. J. McGlennon Company, Inc.
Early American Paint & Varnish Company	Samuel Cabot, Inc.
Ellis Paint Co.	San Luis Paints
Epmar Corporation	Scotch Paint Corp.
Epoxylite Corporation	Sinclair Paint Company / Division of Insilco Corp.
Evr-Gard Coatings	Smiland Paint Company
Fine Line Paint Corp.	Southwest Division, Witco Corporation
Flamort Chemical Company	Spectra-Tone Paint
Frazee Industries, Inc.	Surface Protection Industries, Inc.
Flecto Company, Inc.	T. J. Westlund, Inc., DBA Humboldt Paint Factory
Fuller - O'Brien Paints (The O'Brien Corporation)	Texmred Coatings of America
Guardsman Products, Inc., Coatings Group	Tresco Paint Company, Inc.
Henry Company	Triangle Coatings
Hill Brothers Chemical Company	U.S. Cellulose Co., Inc.
Hoffmann Paint Manufacturing Company	Universal Paint Corp.
J. S. Williams & Sons	W. R. Meadows of California, Inc.
Kelly-Moore Paint Company, Inc.	Western Colloid Products

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Table 1b. Non-California Based Companies Reporting 1990 Sales of Architectural and Industrial Maintenance Coatings

3M	Mathews Paint Company
Absolute Coatings, Inc.	Minwax Company, Inc.
Akzo Coatings, Inc. - Georgia	Multi-Clean Division of Halco Minuteman
Akzo Coatings, Inc. - Michigan	National Polymers, Inc.
Alfa Ink Division	National Varnish Company
American Safety Technologies, Inc.	Olmn, Inc.
Automotive Finishes, Inc.	Porter International (Division of Courtalds Coatings, USA)
Briner Paint Manufacturing Co., Inc.	PPG Architectural Finishes, Inc.
California Products Corporation	Pratt & Lambert, Inc.
Carbolineum Wood Perserving Co.	Proko Industries, Inc.
Champion Coatings	Rainbow Coatings Corporation
Chase Products Company	Republic Powdered Metals, Inc.
Childers Products Company	Rich Art Color Co., Inc.
Coatings for Industry, Inc.	Robinson Chemical Coatings, Inc.
Consumers Paint Factory, Inc.	Rudd Company, Inc.
Continental Products Company	Rust-Oleum Corporation
CRC Industries, Inc.	Schulte Paint Manufacturing Company, Inc.
Crescent Bronze Powder Company, Inc.	Seagrave Coatings Corporation of Virginia, Seaguard Division
Daly's, Inc.	Sheboygan Paint Company
Dampney Company, Inc.	Sherwin-Williams Company
DAP, Inc.	Sigma Coatings
Darworth Company	Somay Products, Inc.
Dexter Packaging Products Division	Southwestern Petroleum Corporation
Dyco Paints, Inc.	Standard T Chemical
Dynamon / Bondo Corporation	Star Bronze Company, Inc.
E.S.P., Inc.	Steelcote Manufacturing Company
Enerfab Corporation	Sunark - Natasco C/O MPV Company
Euclid Chemical Company	Sunnyside Corporation
Fields Corporation / American Tar Company	Tapecoat Company
Flame Control Coatings, Inc.	Tenax Finishing Products Company
Frost Paint & Oil Corporation	Texas Refinery Corporation
Gaco Western, Inc.	Thompson & Formby, Inc.
Gardner Asphalt Corp.	Thoro System Products
GC Electronics	Tnemec Company, Inc.
Gibson-Homans Company	Torginol, Inc. (Previously Peterson Chemical Corporation)
Glidden Company	Tru-Test Manufacturing Company
Gulf Coast Paint Manufacturing, Inc.	United Gilsonite Laboratories
Harco Chemical Coatings, Inc.	United Coatings, Inc.
Hartin Paint & Filler Corp.	United Paint Manufacturing Company, DBA United Coatings
Hempel Coatings (USA), Inc.	Valspar Corporation (Consumer Division)
Huntington Laboratories, Inc.	Valspar Corporation (Federal International Chem. Div.)
Hydrozo, Inc.	Valspar Corporation (Maintenance and Marine Division)
Imperial Paint Company, Inc.	Valspar Corporation (McCloskey Division)
Industrial Epoxy Coatings, Inc.	Vanex, Inc.
Iowa Paint Mfg. Co., Inc.	W.R. Grace & Co. - Conn
ITW Philadelphia Resins	Waterlox Chemical & Coatings Corporation
James B. Day & Company	Wellborn - De Corporation
Jones Blair Company	Westinghouse - Electrical Materials Division
Keeler & Long, Inc.	William Zinsser & Company, Inc.
Klinger Paint Company, Inc.	Wilsch Corporation
Kool Seal, Inc.	Wood-Kote Products
Lilly Industries, Inc. - Perfection Paint Division	Xim Products, Inc.
Mameco International, Inc.	Zehrung Corporation
Maquet Paint/McGrevor Coatings	ZRC Products Company

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Table 3. Summary of 1990 California Sales of Architectural and Industrial Maintenance Coatings.

Coating Category	No. of Companies	No. of Products	Water-based Coating Sales (1,000 Gal)	Solvent-based Coating Sales (1,000 Gal)	Total 1990 Coating Sales (1,000 Gal)
Anti-Graffiti Coating	8	22	30	9	38
Below-Ground Wood Preservatives	4	4	0	37	37
Clear Wood Finishes - Lacquers	27	129	48	845	893
Clear Wood Finishes - Sanding Sealers	22	51	9	378	387
Clear Wood Finishes - Varnishes	47	348	45	816	861
Concrete Curing Compounds	6	24	169	29	197
Dry Fog Coatings	15	29	24	81	105
Fire Retardant Coating - Pigmented	7	12	7	16	23
Flats	53	1,105	32,116	61	32,177
Form-Release Compounds	4	6	4	6	10
Graphic Arts (sign) Coatings	8	165	5	528	533
High Temperature Coatings	18	54	0	13	13
Industrial Maintenance Coatings	77	1,248	241	2,837	3,078
Mastic Texture Coatings	21	86	603	172	775
Metallic Pigmented Coatings	39	125	11	355	366
Nonflats - High Gloss	44	420	687	1,330	2,017
Nonflats - Medium Gloss	51	810	12,645	1,471	14,116
Nonflats - Low Gloss	45	398	2,967	94	3,061
Nonflats - Quick Dry Enamels	19	42	1	483	484
Opaque Stains	27	130	1,528	258	1,785
Pre-treatment Wash Primers	15	21	4	18	21
Primers Sealers and Undercoaters	83	568	3,917	1,871	5,788
Quick Dry Primers, Sealers & Undercoaters	32	84	92	285	377
Roof Coatings	30	132	1,365	617	1,982
Semi-transparent Stains	46	451	574	1,163	1,736
Semi-transparent & Clear Wood Preservatives	11	66	32	231	264
Shellacs - Pigmented	4	5	0	74	74
Swimming Pool Coatings	4	4	0	3	3
Traffic Paints	30	189	1,037	3,200	4,237
Waterproofing Sealers - Clear	29	82	268	681	950
Waterproofing Sealers - Pigmented	12	18	19	55	74
Other Specialty Coatings (1)	14	55	31	88	118
Other (2)	36	113	317	156	473
All coating types pooled	174	6,996	58,796	18,260	77,057

(1) Other specialty coatings include bond breakers, clear fire retardant coatings, magnesite cement coatings, multi-color coatings, opaque wood preservatives, clear shellacs, and swimming pool repair coatings.

(2) Products not classified according to any of the ARB specified categories.

1990 ARB AIM Coating Survey

Table 4a. Estimated Emissions from 1990 California Sales of Architectural and Industrial Maintenance Coatings.

WATER-BORNE COATINGS

Coating Category	Total 1990 Coating Sales (1,000 gal.)	SW Avg. Percent Solids	SW Avg. Material VOC (1) (g/l)	SW Avg. Regulatory VOC (2) (g/l)	Estimated VOC Emissions (tons/yr)
Anti-Graffiti Coating	30	51.9	66.2	123.2	8
Clear Wood Finishes - Lacquers	48	28.5	122.9	302.1	25
Clear Wood Finishes - Sanding Sealers	9	22.6	84.3	293.6	3
Clear Wood Finishes - Varnishes	45	28.2	79.2	205.6	15
Concrete Curing Compounds	169	11.0	25.1	118.3	18
Dry Fog Coatings	24	33.3	50.2	75.6	5
Fire Retardant Coating - Pigmented	7	45.8	9.1	26.0	0
Flats	32,116	38.9	44.1	104.7	5,889
Form-Release Compounds	4	2.2	49.3	592.4	1
Graphic Arts (sign) Coatings	5	40.6	44.3	97.3	1
Industrial Maintenance Coatings	241	38.4	96.7	205.9	97
Mastic Texture Coatings	603	50.1	44.7	87.6	112
Metallic Pigmented Coatings	11	55.5	9.3	18.0	0
Nonflats - High Gloss	687	39.3	98.2	211.4	281
Nonflats - Medium Gloss	12,645	36.9	70.3	162.3	3,699
Nonflats - Low Gloss	2,967	37.1	63.6	153.5	785
Nonflats - Quick Dry Enamels	1	33.8	43.9	106.9	0
Opaque Stains	1,528	36.1	54.3	133.0	345
Pre-treatment Wash Primers	4	1.0	293.0	702.0	5
Primers Sealers and Undercoaters	3,917	35.2	44.7	116.8	729
Quick Dry Primers, Sealers & Undercoaters	92	38.3	42.2	96.8	16
Roof Coatings	1,365	44.4	36.2	67.2	206
Semi-transparent Stains	574	18.0	72.9	257.8	174
Semi-transparent & Clear Wood Preservatives	32	15.7	47.9	279.6	6
Traffic Paints	1,037	54.9	78.3	120.5	338
Waterproofing Sealers - Clear	268	9.7	20.0	158.2	22
Waterproofing Sealers - Pigmented	19	46.7	28.9	58.3	2
Other Specialty Coatings (3)	31	16.2	317.7	560.4	41
Other (4)	317	44.2	42.5	88.1	56
All coating types pooled	58,796	38.2	52.7	124.3	12,880

(1) Sales weighted average grams of volatile organic compounds (VOC) per liter of material.
(2) Sales weighted average grams of volatile organic compounds (VOC) per liter of material plus thinning solvent less water less exempt compounds.
(3) "Other specialty coatings" include bond breakers, clear fire retardant coatings, magnesite cement coatings, multi-color coatings, opaque wood preservatives, clear shellacs, and swimming pool repair coatings.
(4) Products not classified according to any of the ARB specified categories.

ble 4b. Estimated Emissions from 1990 California Sale. / Architectural and Industrial Maintenance Coatings.

Solvent-Borne Coatings

Coating Category	Total 1990 Coating Sale (1,000 Gal)	SW Avg Percent Solids	SW Avg(1) Material VOC(g/l)	SW Avg VOC(2) at Max Thinning VOC (g/l)	SW Avg(3) Regulatory VOC (g/l)	SW Avg. Recomm. Thinning	Estimated VOC Emissions (tons/year) from Material	from Recomm. Thinning	Total	Total Max Thin.
Anti-Graffiti Coating	9	81.3	161	161	173	0.00	6	0	6	6
Below-Ground Wood Preservatives	37	51.4	377	377	377	0.00	58	0	58	58
Clear Wood Finishes - Lacquers	845	26.0	666	669	668	0.93	2,341	29	2,370	2,378
Clear Wood Finishes - Sanding Sealers	378	22.9	667	668	667	0.00	1,048	0	1,048	1,055
Clear Wood Finishes - Varnishes	816	44.2	432	436	434	0.00	1,467	0	1,467	1,501
Concrete Curing Compounds	29	14.0	794	794	794	0.00	94	0	94	94
Dry Fog Coatings	81	42.8	372	373	392	0.00	125	0	125	126
Fire Retardant Coating - Pigmented	16	53.0	373	373	373	0.00	25	0	25	25
Flats	61	47.0	347	359	362	0.45	88	1	89	94
Form-Release Compounds	6	31.9	597	597	597	0.00	15	0	15	15
Graphic Arts (sign) Coatings	528	60.8	412	428	412	0.22	904	4	908	977
High Temperature Coatings	13	36.6	539	556	539	0.00	30	0	30	33
Industrial Maintenance Coatings	2,837	56.5	364	390	374	1.12	4,301	117	4,418	4,859
Mastic Texture Coatings	172	58.3	186	276	274	14.96	133	94	227	230
Metallic Pigmented Coatings	355	52.9	470	472	470	0.01	694	0	694	704
Nonflats - High Gloss	1,330	61.2	313	318	348	0.56	1,734	27	1,762	1,798
Nonflats - Medium Gloss	1,471	67.4	282	283	298	0.29	1,723	16	1,738	1,746
Nonflats - Low Gloss	94	53.3	374	393	384	2.71	147	9	156	165
Nonflats - Quick Dry Enamels	483	55.5	402	403	402	0.00	808	0	808	810
Opaque Stains	258	50.9	394	405	395	0.00	422	0	422	446
Pre-treatment Wash Primers	18	8.4	729	736	740	3.67	53	2	55	56
Primers Sealers and Undercoaters	1,871	54.4	322	331	371	1.22	2,504	84	2,588	2,720
Quick Dry Primers,Sealers & Undercoaters	285	46.3	369	386	418	3.94	438	41	479	483
Roof Coatings	617	70.1	263	263	263	0.00	674	0	674	674
Semi-transparent Stains	1,163	44.3	421	421	432	0.00	2,037	0	2,037	2,038
Semi-transparent&Clear Wood Preservatives	231	50.5	367	367	367	0.00	353	0	353	353
Shellacs - Pigmented	74	33.6	523	544	544	6.14	162	17	179	179
Swimming Pool Coatings	3	31.4	572	575	572	0.00	8	0	8	8
Traffic Paints	3,200	78.9	117	118	132	0.00	1,563	0	1,563	1,565
Waterproofing Sealers - Clear	681	41.2	410	410	418	0.00	1,162	0	1,162	1,162
Waterproofing Sealers - Pigmented	55	49.0	399	399	399	0.00	92	0	92	92
Other Specialty Coatings (4)	88	30.4	567	597	588	0.00	206	0	206	269
Other (5)	156	47.5	496	497	496	0.30	322	2	324	325
All coating types pooled	18,260	57.0	339	347	355	0.66	25,737	444	26,181	27,042

(1) Sales weighted average grams of volatile organic compounds (VOC) per liter of material.
(2) Sales weighted average grams of volatile organic compounds (VOC) in material plus solvents at maximum thinning per liter of material plus solvent.
(3) Sales weighted average grams of volatile organic compounds (VOC) per liter of material plus thinning solvent less water less exempt compounds.
(4) "Other specialty coatings" include bond breakers, clear fire retardant coatings, magnesite cement coatings, multi-color coatings, opaque wood preservatives, clear shellacs, and swimming pool repair coatings.
(5) Products not classified according to any of the ARB specified categories.