APPENDIX F:
Summary of Cost Calculations

Low Cost

Category: Construction, Panel and Floor Covering Adhesive
Subcategory: Complying water based

Average Unit

Typical noncomp: 13 Size 13.00 wt oz
Proposed Limit: 7

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Hexane	0.210	5.00	0.01	0.00	0.00
Mineral Spirits	0.950	8.00	0.08	3.00	0.03
Calcium Carbonate	0.120	50.00	0.06	44.00	0.05
Kaolin	0.060	5.00	0.00	5.00	0.00
Titanium Dioxide	1.180	5.00	0.06	0.00	0.00
LVP-polymer/resins	3.500	27	0.95	26.00	0.91
Xylene	0.360			1	0.00
Silica	0.350			1	0.00
Water	0.002			20	0.00
	SUM	100.00		100.00	

Total Cost, $/pound	1.15	1.00
% Cost Diff. Relative to Current Product		-13.15
Total Cost, $/Unit	0.94	0.81
Recurring Costs C.E., $/lb VOC Reduced		-2.53

Assume: (1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 13.00 ounce

High Cost

Category: Construction, Panel and Floor Covering Adhesive
Subcategory: Complying water based

Average Unit

Typical noncomp: 13 Size 13.00 wt oz
Proposed Limit: 7

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Hexane	0.220	5.00	0.01	0.00	0.00
Mineral Spirits	1.060	8.00	0.08	3.00	0.03
Calcium Carbonate	0.140	50.00	0.07	44.00	0.06
Kaolin	0.140	5.00	0.01	5.00	0.01
Titanium Dioxide	1.180	5.00	0.06	0.00	0.00
LVP-polymer/resins	7.000	27.00	1.89	26.00	1.82
Xylene	0.360	0.00	0.00	1.00	0.00
Silica	0.350	0.00	0.00	1.00	0.00
Water	0.002			20	0.00
	SUM	100.00		100.00	

Total Cost, $/pound	2.12	1.93
% Cost Diff. Relative to Current Product		-9.14
Total Cost, $/Unit	1.72	1.57
Recurring Costs C.E., $/lb VOC Reduced		-3.23

Assume: (1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 13.00 ounce

Low Cost

Category: Construction, Panel and Floor Covering Adhesive
Subcategory: Complying Solvent Based

Typical noncomp: 13 Average Unit Size 13.00 wt oz
Proposed Limit: 7

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Hexane	0.210	5.00	0.01		0.00
Mineral Spirits	0.950	8.00	0.08	5.00	0.05
Calcium Carbonate	0.120	50.00	0.06	56.00	0.07
Kaolin	0.060	5.00	0.00	7.00	0.00
Titanium Dioxide	1.180	5.00	0.06	5.00	0.06
LVP-polymer/resins	3.500	27	0.95	25.00	0.88
Xylene	0.360			2	0.01
	SUM	100.00		100.00	
	Total Cost, $/pound		1.15		1.06
	% Cost Diff. Relative to Current Product				-8.10
	Total Cost, $/Unit		0.94		0.86
	Recurring Costs C.E., $/lb VOC Reduced				-1.56

Assume: (1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 13.00 ounce

High Cost

Category: Construction, Panel and Floor Covering Adhesive
Subcategory: Complying Solvent Based

Typical noncomp: 13 Average Unit Size 13.00 wt oz
Proposed Limit: 7

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Hexane	0.220	5.00	0.01	0.00	0.00
Mineral Spirits	1.060	8.00	0.08	5.00	0.05
Calcium Carbonate	0.140	50.00	0.07	56.00	0.08
Kaolin	0.140	5.00	0.01	7.00	0.01
Titanium Dioxide	1.180	5.00	0.06	5.00	0.06
LVP-polymer/resins	7.000	27.00	1.89	25.00	1.75
Xylene	0.360	0.00	0.00	2.00	0.01
	SUM	100.00		100.00	
	Total Cost, $/pound		2.12		1.96
	% Cost Diff. Relative to Current Product				-7.75
	Total Cost, $/Unit		1.72		1.59
	Recurring Costs C.E., $/lb VOC Reduced				-2.74

Assume: (1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 13.00 ounce

Low Cost

Category: Brake Cleaner
Subcategory: Aerosol

Typical noncomp: 75
Proposed Limit: 10

Average Unit Size 14.00 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Acetone	0.650	25.00	0.16	0.00	0.00
Carbon Dioxide	0.270		0.00	0.00	0.00
Heptane	0.210	40.00	0.08	0.00	0.00
Hydrocarbon Propellant	0.500	15.00	0.08	10.00	0.05
Toluene	0.320	20.00	0.06	0.00	0.00
Water	0.002			88	0.00
Surfactant	0.50			1	0.01
Inorganics	0.09			1	0.00
	SUM	100.00		100.00	

Total Cost, $/pound 0.39 0.06

% Cost Diff. Relative to Current Product -85.04

Total Cost, $/Unit 0.34 0.05

Recurring Costs C.E., $/lb VOC Reduced -0.50

Assume: (1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 14.00 ounce

High Cost

Category: Brake Cleaner
Subcategory: Aerosol

Typical noncomp: 75
Proposed Limit: 10

Average Unit Size 14.00 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Acetone	0.700	25.00	0.18	0.00	0.00
Carbon Dioxide	0.270	0.00	0.00	0.00	0.00
Heptane	0.290	40.00	0.12	0.00	0.00
Hydrocarbon Propellant	0.500	15.00	0.08	10.00	0.05
Toluene	0.320	20.00	0.06	0.00	0.00
Water	0.002			88	0.00
Surfactant	0.55			1	0.01
Inorganics	0.91			1	0.01
	SUM	100.00		100.00	

Total Cost, $/pound 0.43 0.07

% Cost Diff. Relative to Current Product -84.57

Total Cost, $/Unit 0.38 0.06

Recurring Costs C.E., $/lb VOC Reduced -0.56

Assume: (1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 14.00 ounce

Low Cost

Category: Brake Cleaner
Subcategory: non-aerosol

Typical noncomp: 26
Proposed Limit: 10

Average Unit Size 106.00 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Toluene	0.320	15.00	0.05	0.00	0.00
Xylene	0.360	10.00	0.04	0.00	0.00
Ethyl Benzene	0.470	1.00	0.00	0.00	0.00
Acetone	0.650	74.00	0.48	0.00	0.00
Heptane	0.21		0.00	0.00	0.00
Water	0.002		0.00	98.00	0.00
Inorganics	0.09		0.00	1	0.00
Surfactant	0.50			1	0.01
	SUM	100.00		100.00	
	Total Cost, $/pound		0.57		0.01
	% Cost Diff. Relative to Current Product				-98.62
	Total Cost, $/Unit		3.77		0.05
	Recurring Costs C.E., $/lb VOC Reduced				-3.51

Assume: (1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 106.00 ounce
(3) Cost of "inorganics" is the range of the most common inorganics in category

High Cost

Category: Brake Cleaner
Subcategory: non-aerosol

Typical noncomp: 26
Proposed Limit: 10

Average Unit Size 106.00 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Toluene	0.320	15.00	0.05	0.00	0.00
Xylene	0.360	10.00	0.04	0.00	0.00
Ethyl Benzene	0.500	1.00	0.01	0.00	0.00
Acetone	0.700	74.00	0.52	0.00	0.00
Heptane	0.29	0.00	0.00	0.00	0.00
Water	0.002	0.00	0.00	98.00	0.00
Inorganics	0.91			1	0.01
Surfactant	0.55			1	0.01
	SUM	100.00		100.00	
	Total Cost, $/pound		0.61		0.02
	% Cost Diff. Relative to Current Product				-97.27
	Total Cost, $/Unit		4.02		0.11
	Recurring Costs C.E., $/lb VOC Reduced				-3.69

Assume: (1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 106.00 ounce
(3) Cost of "inorganics" is the range of the most common inorganics in category

Low Cost

Category: Automotive Windshield Washer Fluid
Subcategory: Liquid

Average Unit

Typical noncomp: 50 Size 126.90 wt oz
Proposed Limit: 25

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Water	0.002	49.00	0.00	74.00	0.00
Methanol	0.290		0.00	25.00	0.07
Inorganic	0.090	1.00	0.00	1.00	0.00
2-Butoxyethanol	1.040	2.00	0.02		0.00
Isopropyl Alcohol	0.600	48.00	0.29		0.00
	SUM	100.00		100.00	

Total Cost, $/pound 0.31 0.07

% Cost Diff. Relative to Current Product -75.90

Total Cost, $/Unit 2.46 0.59

Recurring Costs C.E., $/lb VOC Reduced -0.94

Assume: (1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 126.90 ounce
(3) Cost of "inorganics" is the range of the most common inorganics in category

High Cost

Category: Automotive Windshield Washer Fluid
Subcategory: Liquid

Average Unit

Typical noncomp: 50 Size 126.90 fl oz
Proposed Limit: 25

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Water	0.002	49.00	0.00	74.00	0.00
Methanol	0.290	0.00	0.00	25.00	0.07
Inorganic	0.910	1.00	0.01	1.00	0.01
2-Butoxyethanol	1.090	2.00	0.02	0.00	0.00
Isopropyl Alcohol	0.650	48.00	0.31	0.00	0.00
	SUM	100.00		100.00	

Total Cost, $/pound 0.34 0.08

% Cost Diff. Relative to Current Product -75.84

Total Cost, $/Unit 2.73 0.66

Recurring Costs C.E., $/lb VOC Reduced -1.04

Assume: (1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 126.90 ounce
(3) Cost of "inorganics" is the range of the most common inorganics in category

Low Cost

Category: Carburator/Fuel-Injector Air Intake Cleaner
Subcategory: Aerosol

Average Unit

Typical noncomp: 65 Size 16.00 wt oz
Proposed Limit: 10

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)		Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100		% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Acetone	0.650		35.00	0.23		50.00	0.33
Carbon Dioxide	0.270			0.00		5.00	0.01
Methyl ester (Soy)	1.540			0.00		35.00	0.54
Methanol	0.290		20.00	0.06		10.00	0.03
Propane (HC Propellant)	0.500		15.00	0.08			0.00
Xylene	0.360		30	0.11			0.00
	SUM		100.00			100.00	

Total Cost, $/pound	0.47	0.91
% Cost Diff. Relative to Current Product		93.49
Total Cost, $/Unit	0.47	0.91
Recurring Costs C.E., $/lb VOC Reduced		0.80

Assume: (1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 16.00 ounce

High Cost

Category: Carburator/Fuel-Injector Air Intake Cleaner
Subcategory: Aerosol

Average Unit

Typical noncomp: 65 Size 16.00 wt oz
Proposed Limit: 10

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)		Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100		% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Acetone	0.700		35.00	0.25		50.00	0.35
Carbon Dioxide	0.270		0.00	0.00		5.00	0.01
Methyl ester (Soy)	1.540		0.00	0.00		35.00	0.54
Methanol	0.290		20.00	0.06		10.00	0.03
Propane (HC Propellant)	0.500		15.00	0.08		0.00	0.00
Xylene	0.360		30.00	0.11		0.00	0.00
	SUM		100.00			100.00	

Total Cost, $/pound	0.49	0.93
% Cost Diff. Relative to Current Product		91.67
Total Cost, $/Unit	0.49	0.93
Recurring Costs C.E., $/lb VOC Reduced		0.81

Assume: (1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 16.00 ounce

Low Cost

Category: Carburator/Fuel-Injector Air Intake Cleaner
Subcategory: non-aerosol

Typical noncomp: 60
Proposed Limit: 10

Average Unit Size 9.90 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Acetone	0.650	40.00	0.26	55.00	0.36
Methanol	0.290	25.00	0.07	10.00	0.03
Methyl ester (Soy)	1.540		0.00	35.00	0.54
Xylene	0.360	35.00	0.13		0.00
			0.00		0.00
			0.00		0.00
SUM		100.00		100.00	

Total Cost, $/pound	0.46	0.93
% Cost Diff. Relative to Current Product		101.85
Total Cost, $/Unit	0.28	0.57
Recurring Costs C.E., $/lb VOC Reduced		0.93

Assume: (1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 9.90 ounce

High Cost

Category: Carburator/Fuel-Injector Air Intake Cleaner
Subcategory: non-aerosol

Typical noncomp: 60
Proposed Limit: 10

Average Unit Size 9.90 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Acetone	0.700	40.00	0.28	55.00	0.39
Methanol	0.290	25.00	0.07	10.00	0.03
Methyl ester (Soy)	1.540	0.00	0.00	35.00	0.54
Xylene	0.360	35.00	0.13	0.00	0.00
SUM		100.00		100.00	

Total Cost, $/pound	0.48	0.95
% Cost Diff. Relative to Current Product		99.16
Total Cost, $/Unit	0.30	0.59
Recurring Costs C.E., $/lb VOC Reduced		0.95

Assume: (1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 9.90 ounce

Low Cost

Category: Engine Degreaser
Subcategory: Aerosol

Typical noncomp: 20
Proposed Limit: 10

Average Unit Size 14.00 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Hydrocarbon Solvent (LVP)	0.86		0.00		0.00
Hydrocarbon Propellant	0.50	15.00	0.08	10.00	0.05
Inorganic	0.09	5.00	0.00	1.00	0.00
Water	0.002	75.00	0.00	88.00	0.00
2-Butoxyethanol	1.04	5	0.05		0.00
Surfactant	0.50			1	0.01
	SUM	100.00		100.00	
	Total Cost, $/pound		0.13		0.06
	% Cost Diff. Relative to Current Product				-56.65
	Total Cost, $/Unit		0.12		0.05
	Recurring Costs C.E., $/lb VOC Reduced				-0.75

Assume: (1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 14.00 ounce

High Cost

Category: Engine Degreaser
Subcategory: Aerosol

Typical noncomp: 20
Proposed Limit: 10

Average Unit Size 14.00 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Hydrocarbon Solvent (LVP)	0.96	0.00	0.00	0.00	0.00
Hydrocarbon Propellant	0.50	15.00	0.08	10.00	0.05
Inorganic	0.91	5.00	0.05	1.00	0.01
Water	0.002	75.00	0.00	88.00	0.00
2-Butoxyethanol	1.09	5.00	0.05	0.00	0.00
Surfactant	0.55			1.00	0.01
	SUM	100.00		100.00	
	Total Cost, $/pound		0.18		0.07
	% Cost Diff. Relative to Current Product				-62.40
	Total Cost, $/Unit		0.15		0.06
	Recurring Costs C.E., $/lb VOC Reduced				-1.10

Assume: (1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 14.00 ounce

Low Cost

Category: Bathroom and Tile
Subcategory: Non-aerosol

Typical noncomp: 4.8
Proposed Limit: 1

Average Unit Size 24.00 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
2-Butoxyethanol	1.040	2.50	0.03	1.00	0.01
fragrance	3.500	0.20	0.01	0.20	0.01
Water	0.002	80.20	0.00	95.00	0.00
Isopropyl alcohol	0.600	2.10	0.01	0.00	0.00
Inorganics	0.090	15.00	0.01	3.80	0.00
	SUM	100.00		100.00	

Total Cost, $/pound 0.06 0.02

% Cost Diff. Relative to Current Product -62.57

Total Cost, $/Unit 0.09 0.03

Recurring Costs C.E., $/lb VOC Reduced -1.00

Assume:
(1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 24.00 ounce
(3) Cost of "inorganics" is the range of the most common inorganics in category

High Cost

Category: Bathroom and Tile
Subcategory: Non-aerosol

Typical noncomp: 4.8
Proposed Limit: 1

Average Unit Size 24.00 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
2-Butoxyethanol	1.090	2.50	0.03	1.00	0.01
fragrance	7.000	0.20	0.01	0.20	0.01
Water	0.002	80.20	0.00	95.00	0.00
Isopropyl alcohol	0.650	2.10	0.01	0.00	0.00
Inorganics	0.910	15.00	0.14	3.80	0.03
	SUM	100.00		100.00	

Total Cost, $/pound 0.19 0.06

% Cost Diff. Relative to Current Product -68.20

Total Cost, $/Unit 0.29 0.09

Recurring Costs C.E., $/lb VOC Reduced -3.46

Assume:
(1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 24.00 ounce
(3) Cost of "inorganics" is the range of the most common inorganics in category

Low Cost

Category: Disinfectant
Subcategory: Aerosol

Typical noncomp: 89.6
Proposed Limit: 70

Average Unit Size 18.00 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Ethanol	0.440	70.00	0.31	44.00	0.19
LVPs and Exempts	3.500		0.00	0.50	0.02
Hydrocarbon Propellant	0.500	19.60	0.10	22.00	0.11
Water	0.002	10.00	0.00	33.00	0.00
Phenol	0.620		0.00	0.30	0.00
Fragrance	3.500	0.2	0.01	0.20	0.01
Phenylphenol	3.500	0.2	0.01		
	SUM	100.00		100.00	
	Total Cost, $/pound		0.42		0.33
	% Cost Diff. Relative to Current Product				-21.32
	Total Cost, $/Unit		0.47		0.37
	Recurring Costs C.E., $/lb VOC Reduced				-0.46

Assume: (1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 18.00 ounce

High Cost

Category: Disinfectant
Subcategory: Aerosol

Typical noncomp: 89.6
Proposed Limit: 70

Average Unit Size 18.00 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Ethanol	0.470	70.00	0.33	44.00	0.21
LVPs and Exempts	7.000	0.00	0.00	0.50	0.04
Hydrocarbon Propellant	0.500	19.60	0.10	22.00	0.11
Water	0.002	10.00	0.00	33.00	0.00
Phenol	0.620	0.00	0.00	0.30	0.00
Fragrance	7.000	0.20	0.01	0.20	0.01
Phenylphenol	7.000	0.20	0.01		
	SUM	100.00		100.00	
	Total Cost, $/pound		0.46		0.37
	% Cost Diff. Relative to Current Product				-19.09
	Total Cost, $/Unit		0.51		0.41
	Recurring Costs C.E., $/lb VOC Reduced				-0.44

Assume: (1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 18.00 ounce

Low Cost

Category: Disinfectant
Subcategory: Liquid

Typical noncomp: 4.4
Proposed Limit: 1

Average Unit Size 133.20 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Ethylene glycol	0.440	5.00	0.02	0.00	0.00
Quaternary ammonia compounds	1.470	3.60	0.05	10.00	0.15
Water	0.002	57.10	0.00	90.00	0.00
Fragrance	3.500	0.30	0.01	0.00	0.00
Ethanol	0.44	4.30	0.02	0.00	0.00
Grouped LVP	0.70	29.70	0.21	0.00	0.00
	SUM	100.00		100.00	

Total Cost, $/pound 0.31 0.15

% Cost Diff. Relative to Current Product -52.52

Total Cost, $/Unit 2.61 1.24

Recurring Costs C.E., $/lb VOC Reduced -4.84

Assume:
(1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 133.20 ounce
(3) Grouped LVP was the price range of propylene and triethylene glycol

High Cost

Category: Disinfectant
Subcategory: Liquid

Typical noncomp: 4.4
Proposed Limit: 1

Average Unit Size 133.20 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Ethylene glycol		5.00	0.00	0.00	0.00
Quaternary ammonia compounds	2.540	3.60	0.09	10.00	0.25
Water	0.002	57.10	0.00	90.00	0.00
Fragrance	7.000	0.30	0.02	0.00	0.00
Ethanol	0.47	4.30	0.02	0.00	0.00
Grouped LVP	1.00	29.70	0.30	0.00	0.00
	SUM	100.00		100.00	

Total Cost, $/pound 0.43 0.26

% Cost Diff. Relative to Current Product -40.62

Total Cost, $/Unit 3.59 2.13

Recurring Costs C.E., $/lb VOC Reduced -5.15

Assume:
(1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 133.20 ounce
(3) Grouped LVP was the price range of propylene and triethylene glycol

Low Cost

Category: Floor Polish or Wax (for flexible and non-resilient floors)
Subcategory: Non-aerosol

Average Unit
Typical noncomp: 7 Size 688.00 wt oz
Proposed Limit: 1

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Water	0.002	63.00	0.00	67.00	0.00
Dipropylene Glycol monomethyl ether	1.34	7.00	0.09	1.00	0.01
Diethylene glycol monoethyl ether	1.23	5.00	0.06	7.00	0.09
Tributoxy ethyl phosphate	1.75	2.00	0.04	2.00	0.04
Exempts and non-solvent LVP VOC	3.50	23.00	0.81	23.00	0.81
	SUM	100.00		100.00	
	Total Cost, $/pound		1.00		0.94
	% Cost Diff. Relative to Current Product				-5.59
	Total Cost, $/Unit		42.85		40.46
	Recurring Costs C.E., $/lb VOC Reduced				-0.93

Assume: (1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 688.00 ounce

High Cost

Category: Floor Polish or Wax (for flexible and non-resilient floors)
Subcategory: Non-aerosol

Average Unit
Typical noncomp: 7 Size 688.00 wt oz
Proposed Limit: 1

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Water	0.002	63.00	0.00	67.00	0.00
Dipropylene Glycol monomethyl ether	1.76	7.00	0.12	1.00	0.02
Diethylene glycol monoethyl ether	1.30	5.00	0.07	7.00	0.09
Tributoxy ethyl phosphate	2.02	2.00	0.04	2.00	0.04
Exempts and non-solvent LVP VOC	7.00	23.00	1.61	23.00	1.61
	SUM	100.00		100.00	
	Total Cost, $/pound		1.84		1.76
	% Cost Diff. Relative to Current Product				-4.32
	Total Cost, $/Unit		79.11		75.69
	Recurring Costs C.E., $/lb VOC Reduced				-1.33

Assume: (1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 688.00 ounce

Low Cost

Category: Furniture Maintenance Product
Subcategory: Non-aerosol

Typical noncomp: 8 Average Unit Size 120.00 wt oz
Proposed Limit: 3

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Mineral Spirits	0.95	7.00	0.07	0.00	0.00
Hydrocarbon Solvent (LVP)	0.86	7.00	0.06	20.00	0.17
Water	0.002	70.00	0.00	65.00	0.00
Fragrance	3.50	1.00	0.04	1.00	0.04
Inorganics	0.09	10.00	0.01	14.00	0.01
Grouped LVP	0.76	5	0.04	0.00	0.00
SUM		100.00		100.00	

Total Cost, $/pound 0.21 0.22

% Cost Diff. Relative to Current Product 5.14

Total Cost, $/Unit 1.58 1.66

Recurring Costs C.E., $/lb VOC Reduced 0.22

Assume:
(1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 120.00 ounce
(3) Grouped LVP cost assumed to mineral oil
(4) Cost of "inorganics" is the range of the most common inorganics in category

High Cost

Category: Furniture Maintenance Product
Subcategory: Non-aerosol

Typical noncomp: 8 Average Unit Size 120.00 fl oz
Proposed Limit: 3

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Mineral Spirits	1.06	7.00	0.07	0.00	0.00
Hydrocarbon Solvent (LVP)	0.96	7.00	0.07	20.00	0.19
Water	0.002	70.00	0.00	65.00	0.00
Fragrance	7.00	1.00	0.07	1.00	0.07
Inorganics	0.91	10.00	0.09	14.00	0.13
Grouped LVP	0.96	5.00	0.05	0.00	0.00
SUM		100.00		100.00	

Total Cost, $/pound 0.35 0.39

% Cost Diff. Relative to Current Product 11.06

Total Cost, $/Unit 2.64 2.93

Recurring Costs C.E., $/lb VOC Reduced 0.78

Assume:
(1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 120.00 ounce
(3) Grouped LVP cost assumed to mineral oil
(4) Cost of "inorganics" is the range of the most common inorganics in category

Low Cost

Category: General Purpose Cleaner
Subcategory: Aerosol

Typical noncomp: 10 Average Unit Size 18.00 wt oz
Proposed Limit: 8

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
2-Butoxyethanol	1.04	2.30	0.02	2.00	0.02
Isopropyl alcohol	0.60	1.60	0.01		0.00
Propane	0.48	0.80	0.00	0.80	0.00
n-Butane	0.46	5.20	0.02		0.00
Isobutane	0.51		0.00	5.20	0.03
Water	0.002	90	0.00	90.00	0.00
Fragrance	3.50	0.1	0.00	0.2	0.01
Inorganics	0.09			1.8	0.00
	SUM	100.00		100.00	

Total Cost, $/pound 0.07 0.06

% Cost Diff. Relative to Current Product -7.51

Total Cost, $/Unit 0.07 0.07

Recurring Costs C.E., $/lb VOC Reduced -0.25

Assume: (1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 18.00 ounce

High Cost

Category: General Purpose Cleaner
Subcategory: Aerosol

Typical noncomp: 10 Average Unit Size 18.00 wt oz
Proposed Limit: 8

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
2-Butoxyethanol	1.09	2.30	0.03	2.00	0.02
Isopropyl alcohol	0.65	1.60	0.01	0.00	0.00
Propane	0.48	0.80	0.00	0.80	0.00
n-Butane	0.46	5.20	0.02	0.00	0.00
Isobutane	0.51	0.00	0.00	5.20	0.03
Water	0.002	90.00	0.00	90.00	0.00
Fragrance	7.00	0.10	0.01	0.20	0.01
Inorganics	0.91			1.80	0.02
	SUM	100.00		100.00	

Total Cost, $/pound 0.07 0.08

% Cost Diff. Relative to Current Product 17.09

Total Cost, $/Unit 0.08 0.09

Recurring Costs C.E., $/lb VOC Reduced 0.62

Assume: (1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 18.00 ounce

Low Cost

Category: General Purpose Degreaser
Subcategory: Aerosol

Typical noncomp: 50 Average Unit Size 19.00 wt oz
Proposed Limit: 10

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Acetone	0.65	3.00	0.02	25.00	0.16
d'Limonene	1.20	32.00	0.38	7.00	0.08
2-Butoxyethanol	1.04		0.00	3.00	0.03
Carbon Dioxide	0.27		0.00	3.50	0.01
LVP Hydrocarbon	0.86		0.00	55.00	0.47
Dipropylene glycol mono butyl ether	1.67	14	0.23	6.50	0.11
Water	0.002	33	0.00		0.00
Propane	0.48	10	0.05		0.00
Iso-butane	0.51	8	0.04		0.00
	SUM	100.00		100.00	
	Total Cost, $/pound		0.73		0.87
	% Cost Diff. Relative to Current Product				19.53
	Total Cost, $/Unit		0.86		1.03
	Recurring Costs C.E., $/lb VOC Reduced				0.35

Assume: (1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 19.00 ounce

High Cost

Category: General Purpose Degreaser
Subcategory: Aerosol

Typical noncomp: 50 Average Unit Size 19.00 wt oz
Proposed Limit: 10

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Acetone	0.70	3.00	0.02	25.00	0.18
d'Limonene	1.30	32.00	0.42	7.00	0.09
2-Butoxyethanol	1.09	0.00	0.00	3.00	0.03
Carbon Dioxide	0.27	0.00	0.00	3.50	0.01
LVP Hydrocarbon	0.96	0.00	0.00	55.00	0.53
Dipropylene glycol mono butyl ether	1.77	14.00	0.25	6.50	0.12
Water	0.002	33.00	0.00	0.00	0.00
Propane	0.48	10.00	0.05	0.00	0.00
Iso-butane	0.51	8.00	0.04	0.00	0.00
	SUM	100.00		100.00	
	Total Cost, $/pound		0.77		0.95
	% Cost Diff. Relative to Current Product				22.85
	Total Cost, $/Unit		0.92		1.13
	Recurring Costs C.E., $/lb VOC Reduced				0.44

Assume: (1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 19.00 ounce

Low Cost

Category: Laundry Starch Product/Sizing/ Fabric Finish
Subcategory: Aerosol

Average Unit

Typical noncomp: 5 Size 22.00 Wt oz
Proposed Limit: 4.5

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Hydrocarbon Propellant	0.50	5.00	0.03	4.50	0.02
non-solvent LVP	3.50	3.00	0.11	3.00	0.11
Water	0.002	91.40	0.00	91.90	0.00
Fragrance	3.50	0.10	0.00	0.10	0.00
Inorganics	0.09	0.50	0.00	0.50	0.00
			0.00	0.00	0.00
SUM		100.00		100.00	

Total Cost, $/pound 0.14 0.13

% Cost Diff. Relative to Current Product -1.83

Total Cost, $/Unit 0.19 0.18

Recurring Costs C.E., $/lb VOC Reduced -0.50

Assume: (1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 22.00 ounce
(3) Cost of "inorganics" is the range of the most common inorganics in category

High Cost

Category: Laundry Starch Product/Sizing/ Fabric Finish
Subcategory: Aerosol

Average Unit

Typical noncomp: 5 Size 22.00 fl oz
Proposed Limit: 4.5

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Hydrocarbon Propellant	0.50	5.00	0.03	4.50	0.02
non-solvent LVP	7.00	3.00	0.21	3.00	0.21
Water	0.002	91.40	0.00	91.90	0.00
Fragrance	7.00	0.10	0.01	0.10	0.01
Inorganics	0.91	0.50	0.00	0.50	0.00
0		0.00		0.00	0.00
SUM		100.00		100.00	

Total Cost, $/pound 0.25 0.25

% Cost Diff. Relative to Current Product -1.00

Total Cost, $/Unit 0.34 0.34

Recurring Costs C.E., $/lb VOC Reduced -0.50

Assume: (1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 22.00 ounce
(3) Cost of "inorganics" is the range of the most common inorganics in category

Low Cost

Category: Oven Cleaner
Subcategory: Non-aerosol

Typical noncomp: 5
Proposed Limit: 1

Average Unit Size 144.00 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Water	0.002	65.00	0.00	69.00	0.00
Sodium hydroxide	0.140	10.00	0.01	10.00	0.01
Potassium hydroxide	0.400	20.00	0.08	20.00	0.08
Monoethanolamine	1.220	2.00	0.02	1.00	0.01
2-Butoxyethanol	1.040	3.00	0.03	0.00	0.00
SUM		100.00		100.00	

Total Cost, $/pound 0.15 0.11

% Cost Diff. Relative to Current Product -28.71

Total Cost, $/Unit 1.36 0.97

Recurring Costs C.E., $/lb VOC Reduced -1.08

Assume: (1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 144.00 ounce

High Cost

Category: Oven Cleaner
Subcategory: Non-aerosol

Typical noncomp: 5
Proposed Limit: 1

Average Unit Size 144.00 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Water	0.002	65.00	0.00	69.00	0.00
Sodium hydroxide	0.160	10.00	0.02	10.00	0.02
Potassium hydroxide	0.480	20.00	0.10	20.00	0.10
Monoethanolamine	1.320	2.00	0.03	1.00	0.01
2-Butoxyethanol	1.090	3.00	0.03	0.00	0.00
SUM		100.00		100.00	

Total Cost, $/pound 0.17 0.13

% Cost Diff. Relative to Current Product -26.58

Total Cost, $/Unit 1.55 1.14

Recurring Costs C.E., $/lb VOC Reduced -1.15

Assume: (1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 144.00 ounce

Low Cost

Category: Sanitizer
Subcategory: Aerosol

Typical noncomp: 94
Proposed Limit: 70

Average Unit Size 10.00 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Ethanol	0.440	40.90	0.18	40.00	0.18
Triethylene/ Propylene glycol	0.700	6.00	0.04	4.00	0.03
Hydrocarbon Propellant	0.500	53.00	0.27	30.00	0.15
HFC152a	1.770	10.00	0.18	0.00	0.00
Fragrance	3.500	0.10	0.00	0.10	0.00
Water	0.002			25.90	0.00
	SUM	110.00		100.00	
	Total Cost, $/pound		0.67		0.36
	% Cost Diff. Relative to Current Product				-46.36
	Total Cost, $/Unit		0.42		0.22
	Recurring Costs C.E., $/lb VOC Reduced				-1.29

Assume: (1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 10.00 ounce

High Cost

Category: Sanitizer
Subcategory: Aerosol

Typical noncomp: 94
Proposed Limit: 70

Average Unit Size 10.00 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Ethanol	0.470	40.90	0.19	40.00	0.19
Triethylene/ Propylene glycol	1.000	6.00	0.06	4.00	0.04
Hydrocarbon Propellant	0.500	53.00	0.27	30.00	0.15
HFC152a	1.770	10.00	0.18	0.00	0.00
Fragrance	7.000	0.10	0.01	0.10	0.01
Water	0.002			25.90	0.00
	SUM	110.00		100.00	
	Total Cost, $/pound		0.70		0.39
	% Cost Diff. Relative to Current Product				-45.02
	Total Cost, $/Unit		0.44		0.24
	Recurring Costs C.E., $/lb VOC Reduced				-1.32

Assume: (1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 10.00 ounce

Low Cost

Category: Sanitizer
Subcategory: Liquid

Typical noncomp: 4.4
Proposed Limit: 1

Average Unit Size 133.20 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Ethanol	0.440	1.20	0.01	0.00	0.00
Quaternary ammonia compounds	1.470	10.00	0.15	0.10	0.00
Water	0.002	88.80	0.00	99.90	0.00
SUM		100.00		100.00	

Total Cost, $/pound 0.15 0.00

% Cost Diff. Relative to Current Product -97.75

Total Cost, $/Unit 1.28 0.03

Recurring Costs C.E., $/lb VOC Reduced -4.43

Assume: (1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 133.20 ounce

High Cost

Category: Sanitizer
Subcategory: Liquid

Typical noncomp: 4.4
Proposed Limit: 1

Average Unit Size 133.20 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Ethanol	0.470	1.20	0.01	0.00	0.00
Quaternary ammonia compounds	2.540	10.00	0.25	0.10	0.00
Water	0.002	88.80	0.00	99.90	0.00
SUM		100.00		100.00	

Total Cost, $/pound 0.26 0.00

% Cost Diff. Relative to Current Product -98.26

Total Cost, $/Unit 2.18 0.04

Recurring Costs C.E., $/lb VOC Reduced -7.56

Assume: (1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 133.20 ounce

Low Cost

Category: Temporary Hair Color
Subcategory: Aerosol

Typical noncomp: 90
Proposed Limit: 55

Average Unit Size 3.00 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Ethanol	0.440	15.00	0.07	19.00	0.08
Dimethyl Ether	0.950	75.00	0.71	35.00	0.33
Aminomethyl propanol	2.610		0.00	0.80	0.02
Fragrance	3.500		0.00	0.20	0.01
Water	0.002		0.00	30.00	0.00
Inorganics	0.090	5	0.00	5.00	0.00
Resin	3.500	5	0.18	8	0.28
Acetone	0.650			2	0.01
	SUM	100.00		100.00	
	Total Cost, $/pound		0.96		0.74
	% Cost Diff. Relative to Current Product				-22.54
	Total Cost, $/Unit		0.18		0.14
	Recurring Costs C.E., $/lb VOC Reduced				-0.62

Assume: (1) Cost of "All Others" remains at $ 3.50 per pound
(2) Average unit size = 3.00 ounce
(3) Cost of "inorganics" is the range of the most common inorganics in category

High Cost

Category: Temporary Hair Color
Subcategory: Aerosol

Typical noncomp: 90
Proposed Limit: 55

Average Unit Size 3.00 wt oz

Formulation and Cost Comparison

Component (A)	Unit Cost $/lb (B)	Typical Non-compliant wt% (C)	Typical Non-compliant Cost (B)x(C)/100	% VOC Compliant wt% (D)	% VOC Compliant Cost (B)x(D)/100
Ethanol	0.470	15.00	0.07	19.00	0.09
Dimethyl Ether	0.950	75.00	0.71	35.00	0.33
Aminomethyl propanol	2.610	0.00	0.00	0.80	0.02
Fragrance	7.000	0.00	0.00	0.20	0.01
Water	0.002	0.00	0.00	30.00	0.00
Inorganics	0.910	5.00	0.05	5.00	0.05
Resin	7.000	5.00	0.35	8.00	0.56
Acetone	0.700	0.00	0.00	2.00	0.01
	SUM	100.00		100.00	
	Total Cost, $/pound		1.18		1.08
	% Cost Diff. Relative to Current Product				-8.63
	Total Cost, $/Unit		0.22		0.20
	Recurring Costs C.E., $/lb VOC Reduced				-0.29

Assume: (1) Cost of "All Others" remains at $ 7.00 per pound
(2) Average unit size = 3.00 ounce
(3) Cost of "inorganics" is the range of the most common inorganics in category