

Appendix I

Methodology to Determine Recurring Costs

Methodology to Determine Recurring Costs

Staff evaluated formulations of complying and noncomplying products for each category for which a lower or new reactivity limit or VOC standard is proposed. These formulations are then used to develop example, nonconfidential formulas that are representative of the category. These representative complying and noncomplying formulas are used to estimate the cost of raw materials to produce each formulation. The difference in cost between a pound of complying and noncomplying formula is then calculated. Next, the typical unit size is used to calculate the cost to comply per unit. The typical unit size is the predominant unit size in a category as reported in the 2010 Survey and the 2012 Technical Assessment for “Multi-purpose Solvent” and “Paint Thinner” products (ARB, 2012).

To assign costs, distributor-level ingredient prices from *ICIS Chemical Business* website (ICIS, 2012), and chemical materials distributors were used to calculate the baseline and compliant material costs for these formulations. Low and high cost scenarios are calculated for each category. In the low cost scenario, the cost per pound of product is calculated using the low end estimate of the cost of each raw material. In the high cost scenario, the high end of the raw material price range is used. Ingredients for which prices were unknown were grouped into an “all others” classification and assigned a default cost of \$1.50 per pound (ARB, 2007).

In some cases, the compliant formula is less expensive than the typical noncompliant formula. This is true, for example, when some amount of VOC solvent is replaced with a lower cost VOC solvent. Also, if the high cost estimate of the solvent is significantly higher than the low cost estimate, the net savings to reformulate will *increase* in the high cost scenario.

The costs calculated here are then copied into Tables VII-1a and VII-1b in Chapter VII, Economic Impacts and used to determine total costs of the proposed amendments.

A. Consumer Products

Category: Consumer Product
 Subcategory: Mist Spray Adhesive
 Typical VOC (%): 53
 Proposed Limit (%): 30
 Typical Unit Size (oz.): 11

LOW COST

Component	Unit Cost \$/lb	Typical Non-Complying		Typical Complying	
		WT%	Cost	WT%	Cost
Hydrocarbon Propellant	0.50	23	\$ 0.12	20	\$ 0.10
Aliphatic Hydrocarbon Solvent	0.53	30	\$ 0.16	10	\$ 0.05
Acetone	0.46	27	\$ 0.12	50	\$ 0.23
Solids	1.50	20	\$ 0.30	20	\$ 0.30

Total		100		100	
	Total Cost, \$/lb		\$ 0.70		\$ 0.68
	% Cost Diff. Relative to Current Product				-0.02
	Total Cost, \$/Unit		\$ 0.48		\$ 0.47

HIGH COST

Component	Unit Cost \$/lb	Typical Non-Complying		Typical Complying	
		WT%	Cost	WT%	Cost
Hydrocarbon Propellant	0.85	23	\$ 0.20	20	\$ 0.17
Aliphatic Hydrocarbon Solvent	0.65	30	\$ 0.20	10	\$ 0.07
Acetone	0.62	27	\$ 0.17	50	\$ 0.31
Solids	1.50	20	\$ 0.30	20	\$ 0.30

Total		100		100	
	Total Cost, \$/lb		\$ 0.86		\$ 0.85
	% Cost Diff. Relative to Current Product				-0.015
	Total Cost, \$/Unit		\$ 0.59		\$ 0.58

Category: Consumer Product
 Subcategory: Screen Print Adhesive
 Typical VOC (%): 60
 Proposed Limit (%): 55
 Typical Unit Size (oz.): 14

LOW COST

Component	Unit Cost \$/lb	Typical Non-Complying		Typical Complying	
		WT%	Cost	WT%	Cost
Hydrocarbon Propellant	0.50	23	\$ 0.12	20	\$ 0.10
Aliphatic Hydrocarbon Solvent	0.53	37	\$ 0.20	35	\$ 0.19
Acetone	0.46	20	\$ 0.09	25	\$ 0.12
Solids	1.50	20	\$ 0.30	20	\$ 0.30

Total 100 100
 Total Cost, \$/lb \$ 0.70 \$ 0.70
 % Cost Diff. Relative to Current Product -0.004
 Total Cost, \$/Unit \$ 0.62 \$ 0.61

HIGH COST

Component	Unit Cost \$/lb	Typical Non-Complying		Typical Complying	
		WT%	Cost	WT%	Cost
Hydrocarbon Propellant	0.85	23	\$ 0.20	20	\$ 0.17
Aliphatic Hydrocarbon Solvent	0.65	37	\$ 0.24	35	\$ 0.23
Acetone	0.62	20	\$ 0.12	25	\$ 0.16
Solids	1.50	20	\$ 0.30	20	\$ 0.30

Total 100 100
 Total Cost, \$/lb \$ 0.86 \$ 0.85
 % Cost Diff. Relative to Current Product -0.009
 Total Cost, \$/Unit \$ 0.75 \$ 0.75

Category: Consumer Product
 Subcategory: Web Spray Adhesive
 Typical VOC (%): 55
 Proposed Limit (%): 40
 Typical Unit Size (oz.): 12

LOW COST

Component	Unit Cost \$/lb	Typical Non-Complying		Typical Complying	
		WT%	Cost	WT%	Cost
Hydrocarbon Propellant	0.50	25	\$ 0.13	20	\$ 0.10
Aliphatic Hydrocarbon Solvent	0.53	30	\$ 0.16	20	\$ 0.11
Acetone	0.46	25	\$ 0.12	40	\$ 0.18
Solids	1.50	20	\$ 0.30	20	\$ 0.30

Total	100	100
Total Cost, \$/lb	\$ 0.70	\$ 0.69
% Cost Diff. Relative to Current Product		-0.013
Total Cost, \$/Unit	\$ 0.52	\$ 0.52

HIGH COST

Component	Unit Cost \$/lb	Typical Non-Complying		Typical Complying	
		WT%	Cost	WT%	Cost
Hydrocarbon Propellant	0.85	25	\$ 0.21	20	\$ 0.17
Aliphatic Hydrocarbon Solvent	0.65	30	\$ 0.20	20	\$ 0.13
Acetone	0.62	25	\$ 0.16	40	\$ 0.25
Solids	1.50	20	\$ 0.30	20	\$ 0.30

Total	100	100
Total Cost, \$/lb	\$ 0.86	\$ 0.85
% Cost Diff. Relative to Current Product		-0.017
Total Cost, \$/Unit	\$ 0.65	\$ 0.64

Category: Consumer Product
 Subcategory: Aerosol Multi-Purpose Solvent & Paint Thinner
 Typical VOC (%): 57
 Proposed Limit (%): 10
 Typical Unit Size (oz.): 14

LOW COST

Component	Unit Cost \$/lb	Typical Non-Complying		Typical Complying	
		WT%	Cost	WT%	Cost
Acetone	0.46	43	\$ 0.20		\$ -
Hydrocarbon Propellant	0.50	15	\$ 0.08	10	\$ 0.05
Aromatic Hydrocarbon Solvent	0.62	21	\$ 0.13		\$ -
Aliphatic Hydrocarbon Solvent	0.53	21	\$ 0.11		\$ -
Water	0.00		\$ -	70	\$ 0.00
Exempt VOC	2.00		\$ -	15	\$ 0.30
Nonsolvent LVP	3.50		\$ -	5	\$ 0.18

Total 100 100
 Total Cost, \$/lb \$ 0.51 \$ 0.53
 % Cost Diff. Relative to Current Product -0.02
 Total Cost, \$/Unit \$ 0.45 \$ 0.46

HIGH COST

Component	Unit Cost \$/lb	Typical Non-Complying		Typical Complying	
		WT%	Cost	WT%	Cost
Acetone	0.62	43	\$ 0.27		\$ -
Hydrocarbon Propellant	0.85	15	\$ 0.13	10	\$ 0.09
Aromatic Hydrocarbon Solvent	0.64	21	\$ 0.13		\$ -
Aliphatic Hydrocarbon Solvent	0.65	21	\$ 0.14		\$ -
Water	0.00		\$ -	70	\$ 0.00
Exempt VOC	3.00		\$ -	15	\$ 0.45
Nonsolvent LVP	7.00		\$ -	5	\$ 0.35

Total 100 100
 Total Cost, \$/lb \$ 0.67 \$ 0.89
 % Cost Diff. Relative to Current Product 0.331
 Total Cost, \$/Unit \$ 0.58 \$ 0.77

B. Aerosol Coatings

Category: Aerosol Coating
 Subcategory: Clear Coating
 Typical Noncompliant MIR: 1.26
 Proposed Limit: 0.85
 Typical Unit Size (WO): 12

LOW COST

Component	Unit Cost \$/lb	Typical Non-Complying		Typical Complying	
		WT%	Cost	WT%	Cost
Acetone	0.46	25	\$ 0.12	25	\$ 0.12
Hydrocarbon Propellant	0.50	24	\$ 0.12	24	\$ 0.12
Coating Solids	1.50	16	\$ 0.24	16	\$ 0.24
Acetates	0.77	13	\$ 0.10	17	\$ 0.13
Aromatic Hydrocarbon Solvent	0.62	7	\$ 0.04	2	\$ 0.01
Aliphatic Hydrocarbon Solvent	0.53	5	\$ 0.03	5	\$ 0.03
Alcohols	0.90	5	\$ 0.05	5	\$ 0.05
Toluene	0.56	4	\$ 0.02	0	\$ -
Ketones	0.71	1	\$ 0.01	1	\$ 0.01
Propionates	1.50	0	\$ -	5	\$ 0.08

Total	100	100
Total Cost, \$/lb	\$ 0.72	\$ 0.77
% Cost Diff. Relative to Current Product		0.07254814
Total Cost, \$/Unit	\$ 0.54	\$ 0.58

HIGH COST

Component	Unit Cost \$/lb	Typical Non-Complying		Typical Complying	
		WT%	Cost	WT%	Cost
Acetone	0.62	25	\$ 0.16	25	\$ 0.16
Hydrocarbon Propellant	0.85	24	\$ 0.20	24	\$ 0.20
Coating Solids	1.50	16	\$ 0.24	16	\$ 0.24
Acetates	0.86	13	\$ 0.11	17	\$ 0.15
Aromatic Hydrocarbon Solvent	0.64	7	\$ 0.04	2	\$ 0.01
Aliphatic Hydrocarbon Solvent	0.65	5	\$ 0.03	5	\$ 0.03
Alcohols	1.22	5	\$ 0.06	5	\$ 0.06
Toluene	0.62	4	\$ 0.02	0	\$ -
Ketones	1.20	1	\$ 0.01	1	\$ 0.01
Propionates	1.50	0	\$ -	5	\$ 0.08

Total	100	100
Total Cost, \$/lb	\$ 0.89	\$ 0.94
% Cost Diff. Relative to Current Product		0.059384595
Total Cost, \$/Unit	\$ 0.66	\$ 0.70

Category: Aerosol Coating
 Subcategory: Flat Coating
 Typical Noncompliant MIR: 1.08
 Proposed Limit: 0.8
 Typical Unit Size (WO): 12

LOW COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Hydrocarbon Propellant	0.50	30	\$ 0.15	30	\$ 0.15
Acetone	0.46	30	\$ 0.14	30	\$ 0.14
Coating Solids	1.50	18	\$ 0.27	18	\$ 0.27
Toluene	0.56	11	\$ 0.06	4	\$ 0.02
Aliphatic Hydrocarbon Solvent	0.53	7	\$ 0.04	7	\$ 0.04
Aromatic Hydrocarbon Solvent	0.62	3	\$ 0.02	1	\$ 0.01
Ketones	0.71		\$ -	4	\$ 0.03
Acetates	0.77	1	\$ 0.01	4	\$ 0.03
Propionates	1.50		\$ -	1	\$ 0.02
Alcohols	0.90		\$ -	1	\$ 0.01

Total 100 100
 Total Cost, \$/lb \$ 0.68 \$ 0.71
 % Cost Diff. Relative to Current Product 0.034484942
 Total Cost, \$/Unit \$ 0.51 \$ 0.53

HIGH COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Hydrocarbon Propellant	0.85	30	\$ 0.26	30	\$ 0.26
Acetone	0.62	30	\$ 0.19	30	\$ 0.19
Coating Solids	1.50	18	\$ 0.27	18	\$ 0.27
Toluene	0.62	11	\$ 0.07	4	\$ 0.02
Aliphatic Hydrocarbon Solvent	0.65	7	\$ 0.05	7	\$ 0.05
Aromatic Hydrocarbon Solvent	0.64	3	\$ 0.02	1	\$ 0.01
Ketones	1.20	0	\$ -	4	\$ 0.05
Acetates	0.86	1	\$ 0.01	4	\$ 0.03
Propionates	1.50	0	\$ -	1	\$ 0.02
Alcohols	1.22	0	\$ -	1	\$ 0.01

Total 100 100
 Total Cost, \$/lb \$ 0.85 \$ 0.90
 % Cost Diff. Relative to Current Product 0.052569807
 Total Cost, \$/Unit \$ 0.64 \$ 0.67

Category: Aerosol Coating
 Subcategory: Fluorescent Coating
 Typical Noncompliant MIR: 1.48
 Proposed Limit: 1.3
 Typical Unit Size (WO): 12

LOW COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Coating Solids	1.50	34.0	\$ 0.51	34.0	\$ 0.51
Hydrocarbon Propellant	0.50	25	\$ 0.13	25	\$ 0.13
Acetone	0.46	15	\$ 0.07	15	\$ 0.07
Aromatic Hydrocarbon Solvent	0.62	14	\$ 0.09	11	\$ 0.07
Aliphatic Hydrocarbon Solvent	0.53	10	\$ 0.05	13	\$ 0.07
Toluene	0.56	2	\$ 0.01	2	\$ 0.01
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -

Total 100 100
 Total Cost, \$/lb \$ 0.86 \$ 0.85
 % Cost Diff. Relative to Current Product -
 Total Cost, \$/Unit \$ 0.64 \$ 0.64

HIGH COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Coating Solids	1.50	34	\$ 0.51	34	\$ 0.51
Hydrocarbon Propellant	0.85	25	\$ 0.21	25	\$ 0.21
Acetone	0.62	15	\$ 0.09	15	\$ 0.09
Aromatic Hydrocarbon Solvent	0.64	14	\$ 0.09	11	\$ 0.07
Aliphatic Hydrocarbon Solvent	0.65	10	\$ 0.07	13	\$ 0.08
Toluene	0.62	2	\$ 0.01	2	\$ 0.01
None	0.00	0	\$ -	0	\$ -
None	0.00	0	\$ -	0	\$ -
None	0.00	0	\$ -	0	\$ -
None	0.00	0	\$ -	0	\$ -

Total 100 100
 Total Cost, \$/lb \$ 0.98 \$ 0.98
 % Cost Diff. Relative to Current Product 0.000305345
 Total Cost, \$/Unit \$ 0.74 \$ 0.74

Category: Aerosol Coating
 Subcategory: Metallic Coating
 Typical Noncompliant MIR: 1.66
 Proposed Limit: 1.25
 Typical Unit Size (WO): 12

LOW COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Hydrocarbon Propellant	0.50	26	\$ 0.13	26	\$ 0.13
Toluene	0.56	27	\$ 0.15	13	\$ 0.07
Acetone	0.46	17	\$ 0.08	27	\$ 0.12
Coating Solids	1.50	15	\$ 0.23	15	\$ 0.23
Aliphatic Hydrocarbon Solvent	0.53	11	\$ 0.06	11	\$ 0.06
Aromatic Hydrocarbon Solvent	0.62	4	\$ 0.02	3	\$ 0.02
Acetates	0.77		\$ -	4	\$ 0.03
Ketones	0.71		\$ -	1	\$ 0.01
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -

Total 100 100
 Total Cost, \$/lb \$ 0.67 \$ 0.67
 % Cost Diff. Relative to Current Product 0.002030472
 Total Cost, \$/Unit \$ 0.50 \$ 0.50

HIGH COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Hydrocarbon Propellant	0.85	26	\$ 0.22	26	\$ 0.22
Toluene	0.62	27	\$ 0.17	13	\$ 0.08
Acetone	0.62	17	\$ 0.11	27	\$ 0.17
Coating Solids	1.50	15	\$ 0.23	15	\$ 0.23
Aliphatic Hydrocarbon Solvent	0.65	11	\$ 0.07	11	\$ 0.07
Aromatic Hydrocarbon Solvent	0.64	4	\$ 0.03	3	\$ 0.02
Acetates	0.86	0	\$ -	4	\$ 0.03
Ketones	1.20	0	\$ -	1	\$ 0.01
None	0.00	0	\$ -	0	\$ -
None	0.00	0	\$ -	0	\$ -

Total 100 100
 Total Cost, \$/lb \$ 0.82 \$ 0.83
 % Cost Diff. Relative to Current Product 0.018666705
 Total Cost, \$/Unit \$ 0.61 \$ 0.62

Category: Aerosol Coating
 Subcategory: Nonflat Coating
 Typical Noncompliant MIR: 1.26
 Proposed Limit: 0.95
 Typical Unit Size (WO): 12

LOW COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Hydrocarbon Propellant	0.50	29	\$ 0.15	29	\$ 0.15
Acetone	0.46	30	\$ 0.14	30	\$ 0.14
Coating Solids	1.50	20	\$ 0.30	20	\$ 0.30
Toluene	0.56	10	\$ 0.06	3	\$ 0.02
Aromatic Hydrocarbon Solvent	0.62	7	\$ 0.04	2	\$ 0.01
Aliphatic Hydrocarbon Solvent	0.53	4	\$ 0.02	4	\$ 0.02
Acetates	0.77	0	\$ -	7	\$ 0.05
Ketones	0.71	0	\$ -	3	\$ 0.02
Propionates	1.50	0	\$ -	2	\$ 0.03
None	0.00		\$ -		\$ -

Total 100 100
 Total Cost, \$/lb \$ 0.70 \$ 0.74
 % Cost Diff. Relative to Current Product 0.049243747
 Total Cost, \$/Unit \$ 0.53 \$ 0.55

HIGH COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Hydrocarbon Propellant	0.85	29.0	\$ 0.25	29.0	\$ 0.25
Acetone	0.62	30.0	\$ 0.19	30.0	\$ 0.19
Coating Solids	1.50	20.0	\$ 0.30	20.0	\$ 0.30
Toluene	0.62	10.0	\$ 0.06	3.0	\$ 0.02
Aromatic Hydrocarbon Solvent	0.64	7.0	\$ 0.04	2.0	\$ 0.01
Aliphatic Hydrocarbon Solvent	0.65	4.0	\$ 0.03	4.0	\$ 0.03
Acetates	0.86	0.0	\$ -	7.0	\$ 0.06
Ketones	1.20	0.0	\$ -	3.0	\$ 0.04
Propionates	1.50	0.0	\$ -	2.0	\$ 0.03
None	0.00	0.0	\$ -	0.0	\$ -

Total 100 100
 Total Cost, \$/lb \$ 0.87 \$ 0.92
 % Cost Diff. Relative to Current Product 0.058726199
 Total Cost, \$/Unit \$ 0.65 \$ 0.69

Category: Aerosol Coating
 Subcategory: Primer
 Typical Noncompliant MIR: 1.00
 Proposed Limit: 0.7
 Typical Unit Size (WO): 16

LOW COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Acetone	0.46	30	\$ 0.14	35	\$ 0.16
Coating Solids	1.50	30	\$ 0.45	30	\$ 0.45
Hydrocarbon Propellant	0.50	20	\$ 0.10	21	\$ 0.11
Aliphatic Hydrocarbon Solvent	0.53	7	\$ 0.04	5	\$ 0.03
Aromatic Hydrocarbon Solvent	0.62	7	\$ 0.04	3	\$ 0.02
Acetates	0.77	6	\$ 0.05	6	\$ 0.05
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -

Total 100 100
 Total Cost, \$/lb \$ 0.81 \$ 0.81
 % Cost Diff. Relative to Current Product 0.009083098
 Total Cost, \$/Unit \$ 0.81 \$ 0.81

HIGH COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Acetone	0.62	30	\$ 0.19	35	\$ 0.22
Coating Solids	1.50	30	\$ 0.45	30	\$ 0.45
Hydrocarbon Propellant	0.85	20	\$ 0.17	21	\$ 0.18
Aliphatic Hydrocarbon Solvent	0.65	7	\$ 0.05	5	\$ 0.03
Aromatic Hydrocarbon Solvent	0.64	7	\$ 0.04	3	\$ 0.02
Acetates	0.86	6	\$ 0.05	6	\$ 0.05
None	0.00	0	\$ -	0	\$ -
None	0.00	0	\$ -	0	\$ -
None	0.00	0	\$ -	0	\$ -
None	0.00	0	\$ -	0	\$ -

Total 100 100
 Total Cost, \$/lb \$ 0.95 \$ 0.95
 % Cost Diff. Relative to Current Product 0.000949467
 Total Cost, \$/Unit \$ 0.95 \$ 0.95

Category: Aerosol Coating
 Subcategory: Flexible Coating
 Typical Noncompliant MIR: 2.70
 Proposed Limit: 1.6
 Typical Unit Size (WO): 12

LOW COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Hydrocarbon Propellant	0.50	26	\$ 0.13	26	\$ 0.13
Coating Solids	1.50	25	\$ 0.38	25	\$ 0.38
Aromatic Hydrocarbon Solvent	0.62	17	\$ 0.11	10	\$ 0.06
Acetone	0.46	15	\$ 0.07	15	\$ 0.07
Aliphatic Hydrocarbon Solvent	0.53	13	\$ 0.07	13	\$ 0.07
Toluene	0.56	3	\$ 0.02	3	\$ 0.02
Acetates	0.77	0	\$ -	7	\$ 0.05
Alcohols	0.90	1	\$ 0.01	1	\$ 0.01
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -

Total 100 100
 Total Cost, \$/lb \$ 0.77 \$ 0.78
 % Cost Diff. Relative to Current Product 0.013561669
 Total Cost, \$/Unit \$ 0.58 \$ 0.59

HIGH COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Hydrocarbon Propellant	0.85	26.0	\$ 0.22	26.0	\$ 0.22
Coating Solids	1.50	25.0	\$ 0.38	25.0	\$ 0.38
Aromatic Hydrocarbon Solvent	0.64	17.0	\$ 0.11	10.0	\$ 0.06
Acetone	0.62	15.0	\$ 0.09	15.0	\$ 0.09
Aliphatic Hydrocarbon Solvent	0.65	13.0	\$ 0.08	13.0	\$ 0.08
Toluene	0.62	3.0	\$ 0.02	3.0	\$ 0.02
Acetates	0.86	0.0	\$ -	7.0	\$ 0.06
Alcohols	1.22	1.0	\$ 0.01	1.0	\$ 0.01
None	0.00	0.0	\$ -	0.0	\$ -
None	0.00	0.0	\$ -	0.0	\$ -

Total 100 100
 Total Cost, \$/lb \$ 0.91 \$ 0.93
 % Cost Diff. Relative to Current Product 0.016865738
 Total Cost, \$/Unit \$ 0.68 \$ 0.70

Category: Aerosol Coating
 Subcategory: Electrical/Electronic/Conformal Coating
 Typical Noncompliant MIR: 3.07
 Proposed Limit: 2.00
 Typical Unit Size (WO): 12

LOW COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Hydrocarbon Propellant	0.50	27	\$ 0.14	27	\$ 0.14
Coating Solids	1.50	20	\$ 0.30	22	\$ 0.33
Aromatic Hydrocarbon Solvent	0.62	18	\$ 0.11	0	\$ -
Acetone	0.46	18	\$ 0.08	0	\$ -
Toluene	0.56	17	\$ 0.10	0	\$ -
Ketones	0.71		\$ -	25	\$ 0.18
Methyl Acetate	0.77		\$ -	22	\$ 0.17
Acetates (other)	0.77		\$ -	4	\$ 0.03
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -

Total 100 100
 Total Cost, \$/lb \$ 0.73 \$ 0.84
 % Cost Diff. Relative to Current Product 0.161705652
 Total Cost, \$/Unit \$ 0.54 \$ 0.63

HIGH COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Hydrocarbon Propellant	0.85	27	\$ 0.23	27	\$ 0.23
Coating Solids	1.50	20	\$ 0.30	22	\$ 0.33
Aromatic Hydrocarbon Solvent	0.64	18	\$ 0.12	0	\$ -
Acetone	0.62	18	\$ 0.11	0	\$ -
Toluene	0.62	17	\$ 0.11	0	\$ -
Ketones	1.20	0	\$ -	25	\$ 0.30
Methyl Acetate	0.86	0	\$ -	22	\$ 0.19
Acetates (other)	0.86	0	\$ -	4	\$ 0.03
None	0.00	0	\$ -	0	\$ -
None	0.00	0	\$ -	0	\$ -

Total 100 100
 Total Cost, \$/lb \$ 0.86 \$ 1.08
 % Cost Diff. Relative to Current Product 0.256985542
 Total Cost, \$/Unit \$ 0.65 \$ 0.81

Category: Aerosol Coating
 Subcategory: Auto Body Primer
 Typical Noncompliant MIR: 1.06
 Proposed Limit: 0.95
 Typical Unit Size (WO): 16

LOW COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Acetone	0.46	30	\$ 0.14	31	\$ 0.14
Coating Solids	1.50	24	\$ 0.36	24	\$ 0.36
Hydrocarbon Propellant	0.50	20	\$ 0.10	20	\$ 0.10
Toluene	0.56	10	\$ 0.06	7	\$ 0.04
Acetates	0.77	8	\$ 0.06	8	\$ 0.06
Aromatic Hydrocarbon Solvent	0.62	5	\$ 0.03	3	\$ 0.02
Aliphatic Hydrocarbon Solvent	0.53	3	\$ 0.02	7	\$ 0.04
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -

Total		100		100	
	Total Cost, \$/lb		\$ 0.76		\$ 0.76
	% Cost Diff. Relative to Current Product				0.004641051
	Total Cost, \$/Unit		\$ 0.76		\$ 0.76

HIGH COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Acetone	0.62	30	\$ 0.19	31	\$ 0.19
Coating Solids	1.50	24	\$ 0.36	24	\$ 0.36
Hydrocarbon Propellant	0.85	20	\$ 0.17	20	\$ 0.17
Toluene	0.62	10	\$ 0.06	7	\$ 0.04
Acetates	0.86	8	\$ 0.07	8	\$ 0.07
Aromatic Hydrocarbon Solvent	0.64	5	\$ 0.03	3	\$ 0.02
Aliphatic Hydrocarbon Solvent	0.65	3	\$ 0.02	7	\$ 0.05
None	0.00	0	\$ -	0	\$ -
None	0.00	0	\$ -	0	\$ -
None	0.00	0	\$ -	0	\$ -

Total		100		100	
	Total Cost, \$/lb		\$ 0.90		\$ 0.90
	% Cost Diff. Relative to Current Product				0.000897537
	Total Cost, \$/Unit		\$ 0.90		\$ 0.90

Category: Aerosol Coating
 Subcategory: Exact Match Finish: Engine
 Typical Noncompliant MIR: 1.27
 Proposed Limit: 0.95
 Typical Unit Size (WO): 12

LOW COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Acetone	0.46	37	\$ 0.17	36	\$ 0.17
Hydrocarbon Propellant	0.50	30	\$ 0.15	29	\$ 0.15
Toluene	0.56	17	\$ 0.10	7	\$ 0.04
Aliphatic Hydrocarbon Solvent	0.53	5	\$ 0.03	9	\$ 0.05
Coating Solids	1.50	11	\$ 0.17	11	\$ 0.17
Acetates	0.77	0	\$ -	8	\$ 0.06
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -

Total 100 100
 Total Cost, \$/lb \$ 0.61 \$ 0.62
 % Cost Diff. Relative to Current Product 0.02753018
 Total Cost, \$/Unit \$ 0.46 \$ 0.47

HIGH COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Acetone	0.62	37	\$ 0.23	36	\$ 0.22
Hydrocarbon Propellant	0.85	30	\$ 0.26	29	\$ 0.25
Toluene	0.62	17	\$ 0.11	7	\$ 0.04
Aliphatic Hydrocarbon Solvent	0.65	5	\$ 0.03	9	\$ 0.06
Coating Solids	1.50	11	\$ 0.17	11	\$ 0.17
Acetates	0.86	0	\$ -	8	\$ 0.07
None	0.00	0	\$ -	0	\$ -
None	0.00	0	\$ -	0	\$ -
None	0.00	0	\$ -	0	\$ -
None	0.00	0	\$ -	0	\$ -

Total 100 100
 Total Cost, \$/lb \$ 0.79 \$ 0.81
 % Cost Diff. Relative to Current Product 0.023017416
 Total Cost, \$/Unit \$ 0.59 \$ 0.60

Category: Aerosol Coating
 Subcategory: Exact Match Finish: Automotive
 Typical Noncompliant MIR: 1.12
 Proposed Limit: 0.95
 Typical Unit Size (WO): 8.25

LOW COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Acetone	0.46	41	\$ 0.19	42	\$ 0.19
Hydrocarbon Propellant	0.50	20	\$ 0.10	21	\$ 0.11
Coating Solids	1.50	10	\$ 0.15	11	\$ 0.17
Toluene	0.56	9	\$ 0.05	4	\$ 0.02
Ketones	0.71	8	\$ 0.06	10	\$ 0.07
Propionates	1.50	8	\$ 0.12	8	\$ 0.12
Alcohols	0.90	3	\$ 0.03	2	\$ 0.02
Acetates	0.77	1	\$ 0.01	2	\$ 0.02
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -

Total 100 100
 Total Cost, \$/lb \$ 0.70 \$ 0.71
 % Cost Diff. Relative to Current Product 0.013218329
 Total Cost, \$/Unit \$ 0.36 \$ 0.37

HIGH COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Acetone	0.62	41	\$ 0.25	42	\$ 0.26
Hydrocarbon Propellant	0.85	20	\$ 0.17	21	\$ 0.18
Coating Solids	1.50	10	\$ 0.15	11	\$ 0.17
Toluene	0.62	9	\$ 0.06	4	\$ 0.02
Ketones	1.20	8	\$ 0.10	10	\$ 0.12
Propionates	1.50	8	\$ 0.12	8	\$ 0.12
Alcohols	1.22	3	\$ 0.04	2	\$ 0.02
Acetates	0.86	1	\$ 0.01	2	\$ 0.02
None	0.00	0	\$ -	0	\$ -
None	0.00	0	\$ -	0	\$ -

Total 100 100
 Total Cost, \$/lb \$ 0.89 \$ 0.91
 % Cost Diff. Relative to Current Product 0.021443896
 Total Cost, \$/Unit \$ 0.46 \$ 0.47

Category: Aerosol Coating
 Subcategory: Exact Match Finish: Industrial
 Typical Noncompliant MIR: 1.42
 Proposed Limit: 0.95
 Typical Unit Size (WO): 12

LOW COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Acetone	0.46	33	\$ 0.15	33	\$ 0.15
Hydrocarbon Propellant	0.50	25	\$ 0.13	25	\$ 0.13
Coating Solids	1.50	20	\$ 0.30	20	\$ 0.30
Aromatic Hydrocarbon Solvent	0.62	18	\$ 0.11	8	\$ 0.05
Aliphatic Hydrocarbon Solvent	0.53	3	\$ 0.02	5	\$ 0.03
Toluene	0.56	1	\$ 0.01	0	\$ -
Ketones	0.71		\$ -	5	\$ 0.04
Acetates	0.77		\$ -	4	\$ 0.03
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -

Total 100 100
 Total Cost, \$/lb \$ 0.71 \$ 0.72
 % Cost Diff. Relative to Current Product 0.013033376
 Total Cost, \$/Unit \$ 0.53 \$ 0.54

HIGH COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Acetone	0.62	33	\$ 0.20	33	\$ 0.20
Hydrocarbon Propellant	0.85	25	\$ 0.21	25	\$ 0.21
Coating Solids	1.50	20	\$ 0.30	20	\$ 0.30
Aromatic Hydrocarbon Solvent	0.64	18	\$ 0.12	8	\$ 0.05
Aliphatic Hydrocarbon Solvent	0.65	3	\$ 0.02	5	\$ 0.03
Toluene	0.62	1	\$ 0.01	0	\$ -
Ketones	1.20	0	\$ -	5	\$ 0.06
Acetates	0.86	0	\$ -	4	\$ 0.03
None	0.00	0	\$ -	0	\$ -
None	0.00	0	\$ -	0	\$ -

Total 100 100
 Total Cost, \$/lb \$ 0.86 \$ 0.90
 % Cost Diff. Relative to Current Product 0.043359172
 Total Cost, \$/Unit \$ 0.64 \$ 0.67

Category: Aerosol Coating
 Subcategory: Ground Traffic/Marking Coating
 Typical Noncompliant MIR: 1.06
 Proposed Limit: 0.85
 Typical Unit Size (WO): 17

LOW COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Water	0.00	34	\$ -	32	\$ -
Hydrocarbon Propellant	0.50	20	\$ 0.10	20	\$ 0.10
Toluene	0.56	17	\$ 0.10	9	\$ 0.05
Aliphatic Hydrocarbon Solvent	0.53	17	\$ 0.09	24	\$ 0.13
Coating Solids	1.50	11	\$ 0.17	14	\$ 0.21
Glycols	0.83	1	\$ 0.01	1	\$ 0.01
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -
None	0.00		\$ -		\$ -

Total		100		100	
	Total Cost, \$/lb		\$ 0.46		\$ 0.50
	% Cost Diff. Relative to Current Product				0.080374699
	Total Cost, \$/Unit		\$ 0.49		\$ 0.53

HIGH COST

Component	Unit Cost \$/lb	Typical Non-Complying		Complying	
		WT%	Cost	WT%	Cost
Water	0.00	34	\$ -	32	\$ -
Hydrocarbon Propellant	0.85	20	\$ 0.17	20	\$ 0.17
Toluene	0.62	17	\$ 0.11	9	\$ 0.06
Aliphatic Hydrocarbon Solvent	0.65	17	\$ 0.11	24	\$ 0.16
Coating Solids	1.50	11	\$ 0.17	14	\$ 0.21
Glycols	1.08	1	\$ 0.01	1	\$ 0.01
None	0.00	0	\$ -	0	\$ -
None	0.00	0	\$ -	0	\$ -
None	0.00	0	\$ -	0	\$ -
None	0.00	0	\$ -	0	\$ -

Total		100		100	
	Total Cost, \$/lb		\$ 0.56		\$ 0.60
	% Cost Diff. Relative to Current Product				0.072848876
	Total Cost, \$/Unit		\$ 0.60		\$ 0.64

References

1. Air Resources Board. 2012 Consumer and Commercial Products Technical Assessment Survey for Multi-purpose Solvent and Paint Thinner Products. July 10, 2012. (ARB, 2012)
2. Air Resources Board. 2010 Consumer and Commercial Products Survey Update for Aerosol Coating and Aerosol Adhesive Products. December 3, 2010. <http://www.arb.ca.gov/consprod/regact/2010surv/2010surv.htm> (ARB, 2010)
3. Air Resources Board. Technical Support Document for Proposed Amendments to the Suggested Control Measure for Architectural Coatings. September, 2007. (ARB, 2007)
4. ICIS. ICIS Chemical Business. <http://icispricing.com>. (ICIS, 2012)

