



**Winston H. Hickox**  
*Agency Secretary*

# Air Resources Board

---

**Alan C. Lloyd, Ph.D.**  
**Chairman**

2020 L Street • P.O. Box 2815 • Sacramento, California 95812 • [www.arb.ca.gov](http://www.arb.ca.gov)



**Gray Davis**  
*Governor*

March 23, 2000

Dear Sir or Madam:

Enclosed are some draft typical architectural coatings formulations that are above or below the proposed volatile organic compound (VOC) limits in the suggested control measure (SCM). These generic, non-confidential formulations were handed out during the afternoon of the March 16, 2000, architectural coatings workshop in Sacramento. We plan to use these formulations to estimate the potential ongoing materials costs of the proposed SCM. Specifically, we plan to compare the materials costs of typical coatings that exceed the proposed VOC limits with that of typical coatings that meet the proposed VOC limits in the SCM. The draft typical formulations are for comparative purposes only, and may not include additives and other ingredients used in small amounts. We are requesting your comments on the enclosed draft formulations by April 7, 2000. If you have concerns with the enclosed draft formulations, please specify alternative formulations or provide suggestions for modifying the formulations.

Thank you for your consideration. If you have any questions about the enclosed draft formulations or our cost analysis, please call Ms. Barbara Fry, Manager of the Measures Development Section, at (916) 322-8267, or by electronic mail at [bfry@arb.ca.gov](mailto:bfry@arb.ca.gov).

Sincerely,

Janette Brooks, Chief  
Air Quality Measures Branch

Enclosure

cc: Barbara Fry, Manager  
Measures Development Section

## **PRELIMINARY COMPLYING AND NONCOMPLYING FORMULATIONS FOR THE COST IMPACTS ANALYSIS**

Note:

The following complying and noncomplying formulations are presented for purposes of the cost impacts analysis only (i.e., for estimating the incremental cost increase or decrease in raw material costs for pre-SCM and post-SCM implementation). These formulations are not intended to be taken as the only formulas manufacturers use or can use to comply with the proposed standards. These formulations reflect “typical” technologies available to manufacturers to comply with the proposed standards, but manufacturers are free to meet the standards in any way they find appropriate, provided the coatings have VOC contents no greater than specified in the table of standards. Thus, some manufacturers may choose completely different coating technologies to meet the standards, while others may produce coatings that resemble the formulations presented in the following tables.

The complying and noncomplying formulations are based on formulations reported in the AIM-SCM survey and publicly-available literature. To protect trade secrets, the formulations are generic versions of the actual products, but they are not identical to the actual products. The components shown in the formulations represent the major components of actual products. However, they are not complete formulations in that minor components (approximately 1% by weight or less each) are not shown, such as additives and other ingredients. Thus minor ingredients were either aggregated into the “All Other Ingredients” category or were excluded and the remaining major components normalized to sum to 100%.

While the following are generic formulations, they do reflect existing technologies and have compositions that use ingredients in proportions that are well within the proportions used by actual products that are reported to meet the proposed VOC standards. Thus, these formulations reflect technologically feasible formulations and are appropriate for purposes of the cost impacts analysis.

**PRELIMINARY DRAFT  
TYPICAL COMPLYING/NONCOMPLYING COATING PRODUCT FORMULA**

Coating Category Name: Bituminous Roof Coatings - Fibrous - Waterborne

Proposed VOC Limit: 250

**COMPLYING FORMULATION**

| Component    | Unit Cost \$/lb | Weight Percent (wt%) |
|--------------|-----------------|----------------------|
| Asphalt      |                 | 45                   |
| Water        |                 | 42                   |
| Fibers       |                 | 3                    |
| Clay         |                 | 10                   |
|              |                 |                      |
|              |                 |                      |
|              |                 |                      |
| <b>Total</b> |                 | <b>100%</b>          |

**NONCOMPLYING FORMULATION**

| Component    | Unit Cost \$/lb | Weight Percent (wt%) |
|--------------|-----------------|----------------------|
|              |                 |                      |
|              |                 |                      |
|              |                 |                      |
|              |                 |                      |
|              |                 |                      |
|              |                 |                      |
|              |                 |                      |
| <b>Total</b> |                 | <b>100%</b>          |

**PRELIMINARY DRAFT  
TYPICAL COMPLYING/NONCOMPLYING COATING PRODUCT FORMULA**

Coating Category Name: Bituminous Roof Coatings - Fibrous - Solventborne

Proposed VOC Limit: 250

**COMPLYING FORMULATION**

| Component | Unit Cost \$/lb | Weight Percent (wt%) |
|-----------|-----------------|----------------------|
| Asphalt   |                 | 65                   |
| Water     |                 | 2                    |

|                 |  |             |
|-----------------|--|-------------|
| Fibers          |  | 3           |
| Clay            |  | 15          |
| Mineral Spirits |  | 15          |
|                 |  |             |
|                 |  |             |
| <b>Total</b>    |  | <b>100%</b> |

**NONCOMPLYING FORMULATION**

| Component       | Unit Cost \$/lb | Weight Percent (wt%) |
|-----------------|-----------------|----------------------|
| Asphalt         |                 | 55                   |
| Mineral Spirits |                 | 27                   |
| Fibers          |                 | 3                    |
| Clay            |                 | 15                   |
|                 |                 |                      |
|                 |                 |                      |
|                 |                 |                      |
| <b>Total</b>    |                 | <b>100%</b>          |

**PRELIMINARY DRAFT  
TYPICAL COMPLYING/NONCOMPLYING COATING PRODUCT FORMULA**

Coating Category Name: Bituminous Roof Coatings - Non Fibrous - Waterborne

Proposed VOC Limit: 250

**COMPLYING FORMULATION**

| Component    | Unit Cost \$/lb | Weight Percent (wt%) |
|--------------|-----------------|----------------------|
| Asphalt      |                 | 47                   |
| Water        |                 | 45                   |
| Clay         |                 | 8                    |
|              |                 |                      |
|              |                 |                      |
|              |                 |                      |
|              |                 |                      |
| <b>Total</b> |                 | <b>100%</b>          |

**NONCOMPLYING FORMULATION**

| Component | Unit Cost \$/lb | Weight Percent (wt%) |
|-----------|-----------------|----------------------|
|-----------|-----------------|----------------------|



**PRELIMINARY DRAFT  
TYPICAL COMPLYING/NONCOMPLYING COATING PRODUCT FORMULA**

Coating Category Name: Flat

Proposed VOC Limit: 100 g/l

**COMPLYING FORMULATION**

| Component              | Unit Cost S/lb | Weight Percent (wt%) |
|------------------------|----------------|----------------------|
| Resin*                 |                | 13                   |
| Pigment and Extenders: |                |                      |
| Titanium dioxide       |                | 15                   |
| Silica/Silicates       |                | 15                   |
| Calcium carbonate      |                | 10                   |
| Texanol                |                | 2                    |
| Propylene glycol       |                | 2                    |
| Additives*             |                | 2                    |
| Water                  |                | 41                   |
| <b>Total</b>           |                | <b>100%</b>          |

\*Note: VOC levels affect the specific resins and additives used

**NONCOMPLYING FORMULATION**

| Component              | Unit Cost S/lb | Weight Percent (wt%) |
|------------------------|----------------|----------------------|
| Resin*                 |                | 13                   |
| Pigment and extenders: |                |                      |
| Titanium dioxide       |                | 15                   |
| Silica/silicates       |                | 15                   |
| Calcium carbonate      |                | 10                   |
| Texanol                |                | 3                    |
| Propylene glycol       |                | 5                    |
| Additives*             |                | 2                    |
| Water                  |                | 37                   |
| <b>Total</b>           |                | <b>100%</b>          |

\*Note: VOC levels affect the specific resins and additives used

**PRELIMINARY DRAFT  
TYPICAL COMPLYING/NONCOMPLYING COATING PRODUCT FORMULA**

Coating Category Name: Floor

Proposed VOC Limit: 100

**COMPLYING FORMULATION**

| Component         | Unit Cost \$/lb | Weight Percent (wt%) |
|-------------------|-----------------|----------------------|
| Epoxy Resin       |                 | 30                   |
| Aliphatic amine   |                 | 30                   |
| Titanium dioxide  |                 | 20                   |
| Calcium carbonate |                 | 20                   |
|                   |                 |                      |
|                   |                 |                      |
|                   |                 |                      |
| <b>Total</b>      |                 | <b>100%</b>          |

**NONCOMPLYING FORMULATION**

| Component            | Unit Cost \$/lb | Weight Percent (wt%) |
|----------------------|-----------------|----------------------|
| Petroleum Distillate |                 | 40                   |
| Alkyd Resin          |                 | 40                   |
| Titanium dioxide     |                 | 20                   |
|                      |                 |                      |
|                      |                 |                      |
|                      |                 |                      |
|                      |                 |                      |
| <b>Total</b>         |                 | <b>100%</b>          |

**PRELIMINARY DRAFT  
TYPICAL COMPLYING/NONCOMPLYING COATING PRODUCT FORMULA**

Coating Category Name: Industrial Maintenance (solvent-borne to solvent-borne)

Proposed VOC Limit: 250

**COMPLYING FORMULATION**

| Component                                  | Unit Cost \$/lb | Weight Percent (wt%) |
|--|-----------------|----------------------|
| Methyl ethyl ketone (MEK)                  |                 | 10                   |
| Bisphenol-A epoxy resin                    |                 | 40                   |
| Polyamine aliphatic + BTX aromatic solvent |                 | 10                   |
| Titanium dioxide                           |                 | 25                   |
| Kaolin/Talc silicates                      |                 | 15                   |
|  |                 |                      |
|  |                 |                      |
| <b>Total</b>                               |                 | <b>100%</b>          |

**NONCOMPLYING FORMULATION**

| Component                    | Unit Cost \$/lb | Weight Percent (wt%) |
|------------------------------|-----------------|----------------------|
| Petroleum distillate solvent |                 | 30                   |
| Titanium dioxide             |                 | 25                   |
| Alkyd resin                  |                 | 25                   |
| Hydrous aluminum silicates   |                 | 8                    |
| Calcium carbonate            |                 | 5                    |
| All other ingredients        |                 | 7                    |
|                              |                 |                      |
| <b>Total</b>                 |                 | <b>100%</b>          |

**PRELIMINARY DRAFT  
TYPICAL COMPLYING/NONCOMPLYING COATING PRODUCT FORMULA**

Coating Category Name: Industrial Maintenance (solvent-borne to water-borne)

Proposed VOC Limit: 250

**COMPLYING FORMULATION**

| Component   | Unit Cost \$/lb | Weight Percent (wt%) |
|---|-----------------|----------------------|
| 2-butoxyethanol/Diethylene glycol monoethyl ether |                 | 10                   |
| Titanium dioxide                                  |                 | 18                   |
| Acrylic resin                                     |                 | 25                   |
| Water   |                 | 45                   |
| All other ingredients                             |                 | 2                    |
|   |                 |                      |
|   |                 |                      |
| <b>Total</b>                                      |                 | <b>100%</b>          |

**NONCOMPLYING FORMULATION**

| Component                    | Unit Cost \$/lb | Weight Percent (wt%) |
|------------------------------|-----------------|----------------------|
| Petroleum distillate solvent |                 | 30                   |
| Titanium dioxide             |                 | 25                   |
| Alkyd resin                  |                 | 25                   |
| Hydrous aluminum silicates   |                 | 8                    |
| Calcium carbonate            |                 | 5                    |
| All other ingredients        |                 | 7                    |
|                              |                 |                      |
| <b>Total</b>                 |                 | <b>100%</b>          |

**PRELIMINARY DRAFT  
TYPICAL COMPLYING/NONCOMPLYING COATING PRODUCT FORMULA**

Coating Category Name: Lacquer - Clear

Proposed VOC Limit: 550 g/l

**COMPLYING FORMULATION**

| Component        | Unit Cost S/lb | Weight Percent (wt%) |
|------------------|----------------|----------------------|
| Nitrocellulose   | 1.25           | 32                   |
| Acetone          |                | 39                   |
| Xylene           |                | 9                    |
| Isopropanol      |                | 4                    |
| Butyl Alcohol    |                | 5                    |
| 2-butoxy ethanol |                | 4                    |
| Butyl Acetate    |                | 7                    |
| <b>Total</b>     |                | <b>100%</b>          |

**NONCOMPLYING FORMULATION**

| Component            | Unit Cost S/lb | Weight Percent (wt%) |
|----------------------|----------------|----------------------|
| Nitrocellulose       | 1.25           | 28                   |
| Xylene               |                | 3                    |
| 2-butoxy ethanol     |                | 4                    |
| Isopropanol          |                | 8                    |
| Isobutyl Alcohol     |                | 7                    |
| Aromatic 100         |                | 4                    |
| VM&P Naptha          |                | 19                   |
| Butyl Acetate        |                | 9                    |
| Methyl Ethyl Ketone  |                | 13                   |
| Isobutyl Isobutyrate |                | 5                    |
| <b>Total</b>         |                | <b>100%</b>          |

**PRELIMINARY DRAFT  
TYPICAL COMPLYING/NONCOMPLYING COATING PRODUCT FORMULA**

Coating Category Name: Lacquer - Pigmented

Proposed VOC Limit: 550 g/l

**COMPLYING FORMULATION**

| Component        | Unit Cost \$/lb | Weight Percent (wt%) |
|------------------|-----------------|----------------------|
| Nitrocellulose   | 1.25            | 18                   |
| Titanium Dioxide |                 | 20                   |
| Acetone          |                 | 30                   |
| Xylene           |                 | 9                    |
| Isopropanol      |                 | 3                    |
| Butyl Alcohol    |                 | 2                    |
| 2-butoxy ethanol |                 | 9                    |
| Butyl Acetate    |                 | 7                    |
| <b>Total</b>     |                 | <b>100%</b>          |

**NONCOMPLYING FORMULATION**

| Component            | Unit Cost \$/lb | Weight Percent (wt%) |
|----------------------|-----------------|----------------------|
| Nitrocellulose       | 1.25            | 19                   |
| Titanium Oxide       |                 | 18                   |
| Xylene               |                 | 4                    |
| Isopropanol          |                 | 9                    |
| Isobutyl Alcohol     |                 | 3                    |
| VM&P Naptha          |                 | 13                   |
| Butyl Acetate        |                 | 12                   |
| Methyl Ethyl Ketone  |                 | 15                   |
| Isobutyl Isobutyrate |                 | 7                    |
| <b>Total</b>         |                 | <b>100%</b>          |

**PRELIMINARY DRAFT**  
**TYPICAL COMPLYING/NONCOMPLYING COATING PRODUCT FORMULA**

Coating Category Name:           Multicolor coatings          

Proposed VOC Limit:           250 g/l          

**COMPLYING FORMULATION**

| Component                        | Unit Cost S/lb | Weight Percent (wt%) |
|----------------------------------|----------------|----------------------|
| Water                            |                | 40                   |
| Butyl cellosolve                 |                | 7                    |
| Polyurethane resin               |                | 7                    |
| Carboxylated resin               |                | 16                   |
| Contact adhesive                 |                | 20                   |
| Pigment (e.g., titanium dioxide) |                | 8                    |
| Additives                        |                | 2                    |
| <b>Total</b>                     |                | <b>100%</b>          |

**NONCOMPLYING FORMULATION**

| Component                     | Unit Cost S/lb | Weight Percent (wt%) |
|-------------------------------|----------------|----------------------|
| Aromatic petroleum solvent    |                | 35                   |
| Mineral spirits               |                | 4                    |
| Yellow iron oxide             |                | 4                    |
| Soya alkyd                    |                | 18                   |
| Phenolated alkyd              |                | 15                   |
| Styrene-butadiene resin       |                | 6                    |
| Chlorinated poly-phenyl resin |                | 3                    |
| Chrome green oxide            |                | 5                    |
| Aluminum silicate             |                | 5                    |
| Additives                     |                | 5                    |
| <b>Total</b>                  |                | <b>100%</b>          |

**PRELIMINARY DRAFT  
TYPICAL COMPLYING/NONCOMPLYING COATING PRODUCT FORMULA**

Coating Category Name: Non-flat (this example is medium-gloss)

Proposed VOC Limit: 150 g/l

**COMPLYING FORMULATION**

| Component              | Unit Cost \$/lb | Weight Percent (wt%) |
|------------------------|-----------------|----------------------|
| Resin*                 |                 | 22                   |
| Pigment and Extenders: |                 |                      |
| Titanium dioxide       |                 | 19                   |
| Silica/Silicates       |                 | 5                    |
| Calcium carbonate      |                 | 2                    |
| Texanol                |                 | 2                    |
| Propylene glycol       |                 | 3                    |
| Additives*             |                 | 2                    |
| Water                  |                 | 45                   |
| <b>Total</b>           |                 | <b>100%</b>          |

\*Note: VOC levels affect the specific resins and additives used

**NONCOMPLYING FORMULATION**

| Component              | Unit Cost \$/lb | Weight Percent (wt%) |
|------------------------|-----------------|----------------------|
| Resin*                 |                 | 22                   |
| Pigment and Extenders: |                 |                      |
| Titanium dioxide       |                 | 19                   |
| Silica/Silicates       |                 | 5                    |
| Calcium carbonate      |                 | 2                    |
| Texanol                |                 | 3                    |
| Propylene glycol       |                 | 6                    |
| Additives*             |                 | 2                    |
| Water                  |                 | 41                   |
| <b>Total</b>           |                 | <b>100%</b>          |

\*Note: VOC levels affect the specific resins and additives used

**PRELIMINARY DRAFT  
TYPICAL COMPLYING/NONCOMPLYING COATING PRODUCT FORMULA**

Coating Category Name: Primers, Sealers, Undercoaters

Proposed VOC Limit: 200 grams/liter

**COMPLYING FORMULATION**

| Component        | Unit Cost \$/lb | Weight Percent (wt%) |
|------------------|-----------------|----------------------|
| Water            |                 | 54                   |
| Acrylic resin    |                 | 15                   |
| Titanium dioxide |                 | 13                   |
| Talc             |                 | 12                   |
| Ethylene glycol  |                 | 3                    |
| Additives        |                 | 3                    |
|                  |                 |                      |
| <b>Total</b>     |                 | <b>100%</b>          |

**NONCOMPLYING FORMULATION**

| Component            | Unit Cost \$/lb | Weight Percent (wt%) |
|----------------------|-----------------|----------------------|
| Talc                 |                 | 35                   |
| Tall oil alkyd resin |                 | 25                   |
| Mineral spirits      |                 | 24.5                 |
| Titanium dioxide     |                 | 12                   |
| Additives            |                 | 3.5                  |
|                      |                 |                      |
|                      |                 |                      |
| <b>Total</b>         |                 | <b>100%</b>          |

**PRELIMINARY DRAFT  
TYPICAL COMPLYING/NONCOMPLYING COATING PRODUCT FORMULA**

Coating Category Name: Quick-Dry Enamel

Proposed VOC Limit: 250 g/l

**COMPLYING FORMULATION**  
(This is a high-gloss latex)

| Component              | Unit Cost \$/lb | Weight Percent (wt%) |
|------------------------|-----------------|----------------------|
| Resin*                 |                 | 26                   |
| Pigment and Extenders: |                 |                      |
| Titanium dioxide       |                 | 20                   |
| Silica/Silicates       |                 | 0                    |
| Calcium carbonate      |                 | 0                    |
| Texanol                |                 | 3                    |
| Propylene glycol       |                 | 7                    |
| Additives*             |                 | 2                    |
| Water                  |                 | 42                   |
| <b>Total</b>           |                 | <b>100%</b>          |

**NONCOMPLYING FORMULATION**  
(This is a solvent-based alkyd)

| Component              | Unit Cost \$/lb | Weight Percent (wt%) |
|------------------------|-----------------|----------------------|
| Alkyd resin            |                 | 32                   |
| Pigment and extenders: |                 |                      |
| Titanium dioxide       |                 | 25                   |
| Silica/Silicates       |                 | 0                    |
| Calcium carbonate      |                 | 5                    |
| Additives              |                 | 2                    |
| Mineral spirits        |                 | 36                   |
| <b>Total</b>           |                 | <b>100%</b>          |

**PRELIMINARY DRAFT**  
**TYPICAL COMPLYING/NONCOMPLYING COATING PRODUCT FORMULA**

Coating Category Name: Quick-Dry Primers, Sealers, Undercoaters

Proposed VOC Limit: 200 grams/liter

**COMPLYING FORMULATION**

| Component                 | Unit Cost \$/lb | Weight Percent (wt%) |
|---------------------------|-----------------|----------------------|
| Water                     |                 | 40                   |
| Vinyl Acrylic Resin       |                 | 30                   |
| Titanium dioxide          |                 | 10                   |
| Calcium carbonate         |                 | 9                    |
| Magnesium silicate (talc) |                 | 7                    |
| Ethylene glycol           |                 | 3                    |
| Additives                 |                 | 1                    |
| <b>Total</b>              |                 | <b>100%</b>          |

**NONCOMPLYING FORMULATION**

| Component           | Unit Cost \$/lb | Weight Percent (wt%) |
|---------------------|-----------------|----------------------|
| V.M.&P. Naphtha     |                 | 29                   |
| Talc                |                 | 22                   |
| Vinyl toluene resin |                 | 21                   |
| Titanium dioxide    |                 | 12                   |
| Mineral spirits     |                 | 7                    |
| Kaolin              |                 | 5                    |
| Soya alkyd          |                 | 2                    |
| Additives           |                 | 2                    |
| <b>Total</b>        |                 | <b>100%</b>          |

**PRELIMINARY DRAFT  
TYPICAL COMPLYING/NONCOMPLYING COATING PRODUCT FORMULA**

Coating Category Name: Stains

Proposed VOC Limit: 250

**COMPLYING FORMULATION**

| Component          | Unit Cost \$/lb | Weight Percent (wt%) |
|--------------------|-----------------|----------------------|
| Water              |                 | 60                   |
| Crystalline Silica |                 | 12                   |
| Acrylic Resin      |                 | 7                    |
| Alkyd Resin        |                 | 7                    |
| Iron Oxide         |                 | 14                   |
|                    |                 |                      |
|                    |                 |                      |
| <b>Total</b>       |                 | <b>100%</b>          |

**NONCOMPLYING FORMULATION**

| Component           | Unit Cost \$/lb | Weight Percent (wt%) |
|---------------------|-----------------|----------------------|
| Mineral Spirits     |                 | 35                   |
| Refined Linseed Oil |                 | 50                   |
| Alkyd Resin         |                 | 8                    |
| Iron Oxide          |                 | 7                    |
|                     |                 |                      |
|                     |                 |                      |
|                     |                 |                      |
| <b>Total</b>        |                 | <b>100%</b>          |

**PRELIMINARY DRAFT  
TYPICAL COMPLYING/NONCOMPLYING COATING PRODUCT FORMULA**

Coating Category Name: Swimming Pool and Swimming Pool Repair and Maintenance

Proposed VOC Limit: 340 g/l

**COMPLYING FORMULATION**

| Component        | Unit Cost \$/lb | Weight Percent (wt%) |
|------------------|-----------------|----------------------|
| Mineral spirits  |                 | 20                   |
| Epoxy resin      |                 | 30                   |
| Titanium dioxide |                 | 30                   |
| Polyamide resin  |                 | 20                   |
|                  |                 |                      |
|                  |                 |                      |
| <b>Total</b>     |                 | <b>100%</b>          |

**NONCOMPLYING FORMULATION**

| Component          | Unit Cost \$/lb | Weight Percent (wt%) |
|--------------------|-----------------|----------------------|
| Xylene             |                 | 45                   |
| Titanium dioxide   |                 | 17                   |
| Talc               |                 | 26                   |
| Chlorinated rubber |                 | 12                   |
|                    |                 |                      |
|                    |                 |                      |
| <b>Total</b>       |                 | <b>100%</b>          |

**PRELIMINARY DRAFT**  
**TYPICAL COMPLYING/NONCOMPLYING COATING PRODUCT FORMULA**

Coating Category Name: Waterproofing Sealers

Proposed VOC Limit: 250

**COMPLYING FORMULATION**

| Component          | Unit Cost \$/lb | Weight Percent (wt%) |
|--------------------|-----------------|----------------------|
| Water              |                 | 80                   |
| Acrylic Polymer    |                 | 15                   |
| Texanol            |                 | 2                    |
| Ethylene glycol    |                 | 2                    |
| Crystalline Silica |                 | 1                    |
|                    |                 |                      |
|                    |                 |                      |
| <b>Total</b>       |                 | <b>100%</b>          |

**NONCOMPLYING FORMULATION**

| Component            | Unit Cost \$/lb | Weight Percent (wt%) |
|----------------------|-----------------|----------------------|
| Petroleum Distillate |                 | 40                   |
| Calcium carbonate    |                 | 30                   |
| Alkyd Resin          |                 | 30                   |
|                      |                 |                      |
|                      |                 |                      |
|                      |                 |                      |
|                      |                 |                      |
| <b>Total</b>         |                 | <b>100%</b>          |