Automotive Coatings, Adhesive & Sealants

US Industry Study with Forecasts for 2014 & 2019

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**Table of Contents**

**EXECUTIVE SUMMARY**

**MARKET ENVIRONMENT**
- General ........................................... 4
- Macroeconomic Overview ....................... 5
- Demographic Outlook ............................. 8
- Personal Consumption Spending ............... 11
- Motor Vehicle Industry Overview .............. 13
- Motor Vehicle Outlook ........................... 15
- Motor Vehicle Suppliers ........................ 18
- Motor Vehicle Industry Research & Development Trends .................... 21
- Collision/Accident Trends ....................... 23
- Competitive Technologies ........................ 24
- Joining Technologies ............................. 24
- Coating Technologies ............................ 27
- Gasket Technologies ............................. 28
- Environmental & Regulatory Considerations ........... 31
- The Environmental Protection Agency ......... 31
- The Occupational Safety & Health Administration ........... 34

**OVERVIEW**
- General ........................................... 35
- Demand by Product ............................... 36
- Historical Market Trends ........................ 38
- Pricing Trends ................................... 41
- International Activity ............................. 43
- World Automotive Coatings, Adhesives & Sealants ................... 45
- Demand by Market ................................. 46
- Global Suppliers ................................ 48

**AUTOMOTIVE COATINGS**
- General ........................................... 51
- Formulations & Substrates ....................... 52
- Solvent-Based .................................... 54
- Water-Based ...................................... 55
- Other ............................................ 57
- Powder Coatings ................................ 58
- Electrodeposition Coatings ..................... 59
- Radiation-Cured Coatings ....................... 61
- Types ............................................ 62
- Urethane ........................................ 64
- Acrylic .......................................... 65
- Epoxy ........................................... 67
- Other ........................................... 69
- Markets & Applications ......................... 71
- OEM ............................................. 73
- Exterior ......................................... 75
- Other OEM ....................................... 80
- Light Vehicles .................................. 81
- Medium- & Heavy-Duty Vehicles .............. 83
- Aftermarket ..................................... 84
- Light Vehicles .................................. 88
- Medium- & Heavy-Duty Vehicles .............. 89

**AUTOMOTIVE ADHESIVES**
- General ........................................... 98
- Formulations ..................................... 99
- Solvent-Based ................................... 101
- Water-Based ..................................... 102
- Other ........................................... 102
- Hot Melts ....................................... 102
- Radiation-Cured ................................. 104
- Functions ....................................... 104
- Types ........................................... 106
- Urethane ........................................ 109
- Epoxy ........................................... 110
- Acrylic .......................................... 112
- Other ........................................... 113
- Markets & Applications ......................... 116
- OEM ............................................. 118
- Light Vehicles .................................. 120
- Medium- & Heavy-Duty Vehicles .............. 121
- Aftermarket ..................................... 122
- Light Vehicles .................................. 125
- Medium- & Heavy-Duty Vehicles .............. 126
- Suppliers ........................................ 127
- OEM ............................................. 128
- Aftermarket ..................................... 129

**AUTOMOTIVE SEALANTS**
- General ........................................... 130
- Formulations ..................................... 132
- Water-Based ..................................... 133
- Solvent-Based ................................... 134
- Other ........................................... 134
- Types ........................................... 135
- Synthetic Elastomers ............................. 137
- Urethane ........................................ 138
- Silicone ........................................ 140
- Other ........................................... 142
- Markets & Applications ......................... 143
- OEM ............................................. 145
- Light Vehicles .................................. 148
- Medium- & Heavy-Duty Vehicles .............. 149
- Aftermarket ..................................... 150
- Light Vehicles .................................. 152
- Medium- & Heavy-Duty Vehicles .............. 154
- Suppliers ........................................ 155
- OEM ............................................. 156
- Aftermarket ..................................... 158

**APPLICATIONS**
- General ........................................... 160
- Exterior ......................................... 163
- Coating Applications ............................ 164
- Adhesive & Sealant Applications ............... 166
- Interior ......................................... 168
- Under-the-Hood ................................ 170
- Other ........................................... 172

**MARKETS**
- General ........................................... 174
- OEM ............................................. 177
- Light Vehicles .................................. 179
- Automobiles ..................................... 181
- Light Trucks & Vans ............................. 182
- Medium- & Heavy-Duty Vehicles .............. 184
- Aftermarket ..................................... 186
- Light Vehicles .................................. 190
- Medium- & Heavy-Duty Vehicles .............. 191

**INDUSTRY STRUCTURE**
- General ........................................... 193
- Market Share .................................... 195
- Coatings ........................................ 200
- Adhesives & Sealants ............................ 201
- Competitive Strategies .......................... 202
- Acquisitions & Divestitures ...................... 204
- Cooperative Agreements ........................ 205
- Marketing ....................................... 208
- Distribution ...................................... 211
- Manufacturing ................................... 212
- Research & Development ....................... 213

**COMPANY PROFILES**
- ADCO Global .................................... 216
- Akzo Nobel ....................................... 218
- Arkema SA ...................................... 220
- Ashland Incorporated ............................ 221
- BASF SE ......................................... 223
- Bayer AG ........................................ 225
- Bemis Associates ................................ 227
- Cytel Industries ................................ 228
- Dow Chemical .................................... 231
- Dow Corning .................................... 233
- DuPont (EI) de Nemours ......................... 234
- EMS-Chemie Holding ............................ 236
- FinishMaster Incorporated ...................... 240
- Forbo Holding ................................... 242
- Fujikura Kasei ................................... 243
- Henkel AG ....................................... 246
- Huntsman Corporation ........................... 249
- Illinois Tool Works ................................ 251
- LORD Corporation ................................ 254
- MAACO Enterprises ............................... 257
- Momentive Performance Materials ............ 258
- Nippon Paint ..................................... 260
- Nitto Denko ...................................... 262
- NOF Corporation ................................ 265
- PPG Industries ................................... 267
- Radiator Specialty ................................. 270
- Reichhold Incorporated .......................... 271
- RPM International ................................ 271
- Sherwin-Williams Company ..................... 274
- 3M Company ..................................... 276
- Total SA ......................................... 279
- Transtar Industries ................................ 282
- US Paint Corporation ............................. 284
- Valspar Corporation ............................... 285
- Wacker Chemie AG ............................... 288
- Other Companies in the Industry ............... 291
## List of Tables/Charts

### EXECUTIVE SUMMARY

1. Summary Table ........................................ 3

### MARKET ENVIRONMENT

1. Macroeconomic Indicators ............................. 8
2. Population & Households ............................. 11
3. Personal Consumption Expenditures ............... 13
4. Motor Vehicle & Parts Shipments .................. 14
5. Motor Vehicle Indicators .......................... 17
6. Selected VOC Content Standards for Automotive Refinish Coatings .......... 34

### OVERVIEW

1. Automotive Coating, Adhesive & Sealant Demand by Product .......... 38
Cht Automotive Coating, Adhesive & Sealant Demand, 1999-2009 .......... 41
3. Pricing for Automotive Coatings, Adhesives & Sealants ............... 42
4. World Motor Vehicle Production ...................... 45

### AUTOMOTIVE COATINGS

1. Automotive Coating Demand .......................... 52
2. Automotive Coating Demand by Formulation & Substrate .............. 54
3. Automotive Coating Demand by Type .......................... 63
Cht Automotive Coating Demand by Type, 2009 .......................... 63
4. Urethane Automotive Coating Demand ........................ 65
5. Acrylic Automotive Coating Demand ........................ 67
6. Epoxy Automotive Coating Demand .......................... 69
7. Other Automotive Coating Demand .......................... 71
Cht Automotive Coating Demand by Market & Application .............. 73
9. Automotive OEM Coating Demand by Vehicle & Application .......... 75
10. Light Vehicle OEM Coating Demand by Vehicle .......................... 83
11. Medium- & Heavy-Duty Vehicle OEM Coating Demand .............. 84
12. Automotive Aftermarket Coating Demand by Vehicle & Application .... 87
13. Light Vehicle Aftermarket Coating Demand .......................... 89
14. Medium- & Heavy-Duty Vehicle Aftermarket Coating Demand .......... 90

### AUTOMOTIVE SEALANTS

1. Automotive Sealant Demand .......................... 131
2. Automotive Sealant Demand by Formulation .......................... 133
3. Automotive Sealant Demand by Type .......................... 136
Cht Automotive Sealant Demand by Type, 2009 .......................... 137
4. Synthetic Elastomer Automotive Sealant Demand ....................... 138
5. Urethane Automotive Sealant Demand .......................... 140
6. Silicone Automotive Sealant Demand .......................... 141
7. Other Automotive Sealant Demand .......................... 143
8. Automotive Sealant Demand by Market & Application .............. 145
9. Automotive OEM Sealant Demand by Vehicle & Application .......... 147
10. Light Vehicle OEM Sealant Demand by Vehicle .......................... 149
11. Medium- & Heavy-Duty Vehicle OEM Sealant Demand .............. 150
12. Automotive Aftermarket Sealant Demand by Vehicle & Application .... 152
13. Light Vehicle Aftermarket Sealant Demand .......................... 154
14. Medium- & Heavy-Duty Vehicle Aftermarket Sealant Demand .......... 155

### AUTOMOTIVE ADHESIVES

1. Automotive Adhesive Demand .......................... 99
2. Automotive Adhesive Demand by Formulation .......................... 101
3. Automotive Adhesive Demand by Type .......................... 106
4. Automotive Adhesive Demand by Type, 2009 .......................... 108
Cht Automotive Adhesive Demand by Type, 2009 .......................... 108
5. Urethane Automotive Adhesive Demand .......................... 110
6. Epoxy Automotive Adhesive Demand .......................... 111
7. Acrylic Automotive Adhesive Demand .......................... 113
8. Other Automotive Adhesive Demand .......................... 115
9. Automotive Adhesive Demand by Market & Application .............. 117
10. Automotive OEM Adhesive Demand by Vehicle & Application .......... 120
11. Light Vehicle OEM Adhesive Demand by Vehicle .......................... 121
12. Medium- & Heavy-Duty Vehicle OEM Adhesive Demand .............. 122
13. Automotive Aftermarket Adhesive Demand by Vehicle & Application .... 125
14. Light Vehicle Aftermarket Adhesive Demand .......................... 126
15. Medium- & Heavy-Duty Vehicle Aftermarket Adhesive Demand .......... 127

### APPLICATIONS

1. Automotive Coating, Adhesive & Sealant Demand by Application ........ 162
Cht Automotive Coating, Adhesive & Sealant Demand by Application, 2009 .. 162
2. Exterior Applications for Automotive Coatings, Adhesives & Sealants .... 164
3. Interior Applications for Automotive Coatings, Adhesives & Sealants .... 169
5. Other Applications for Automotive Coatings, Adhesives & Sealants .......... 173

### MARKETS

1. Automotive Coating, Adhesive & Sealant Demand by Market & Vehicle .......... 176
2. OEM Demand for Automotive Coatings, Adhesives & Sealants by Product, Vehicle & Application .......... 179
3. OEM Light Vehicle Demand for Automotive Coatings, Adhesives & Sealants by Product & Vehicle .............. 181
4. OEM Automobile Demand for Automotive Coatings, Adhesives & Sealants .......... 182
5. OEM Light Truck & Van Demand for Automotive Coatings, Adhesives & Sealants .......... 184
6. OEM Medium- & Heavy-Duty Vehicle Demand for Automotive Coatings, Adhesives & Sealants .............. 186
7. Aftermarket Demand for Automotive Coatings, Adhesives & Sealants by Product & Vehicle .............. 191
8. Light Vehicle Aftermarket Demand for Automotive Coatings, Adhesives & Sealants .............. 192
9. Medium- & Heavy-Duty Vehicle Aftermarket Demand for Automotive Coatings, Adhesives & Sealants .............. 192

### INDUSTRY STRUCTURE

1. US Automotive Coating, Adhesive & Sealant Sales by Company, 2009 .......... 194
Cht US Automotive Coating Market Share, 2009 .......... 200
Cht US Automotive Adhesive & Sealant Market Share, 2009 .......... 201
2. Selected Cooperative Agreements ............................ 208
The OEM market will drive overall gains as vehicle production expands rapidly from a depressed base. Aftermarket demand will also accelerate as the economy improves.

US demand to expand 9.4% yearly through 2014

US demand for coatings, adhesives and sealants used in the automotive industry is forecast to expand 9.4 percent annually to $5.6 billion in 2014. This healthy rate of growth represents a significant rebound from the declines of the 2004-2009 period, when the market was adversely impacted by the global economic downturn. The US motor vehicle industry was particularly hard hit by the weak global economy, as falling consumer confidence and tightening credit markets severely restricted new vehicle purchases. As a result, vehicle output was cut in half between 2004 and 2009, reducing demand for coatings, adhesives and sealants at the original equipment manufacturer (OEM) level. Through 2014, however, this segment of the market will drive overall gains as vehicle production expands rapidly from a depressed base. Aftermarket demand will also accelerate through 2014. As economic conditions improve, drivers will be more likely to make nonessential repairs that they may have chosen to forgo during times of economic uncertainty.

Water-based, powder and radiation-curable coatings to pace dominant segment

Coatings will provide the best gains, as their good environmental profile enables users to meet stricter volatile organic compound (VOC) requirements. However, overall demand will advance at a below-average pace as efforts to improve paint shop efficiency, reduce costs and limit waste will restrict gains in market volume. Sales will also be impacted by greater competition from alternative materials, such as in-molded colored plastics and paint films.

Adhesive, sealant segments to be fastest growing

More rapid growth will be achieved by the smaller adhesive and sealant segments. Advances will be promoted by cost-cutting measures and efforts to increase fuel efficiency by reducing vehicle weight, both of which favor the use of adhesives and sealants over welded joints, mechanical fasteners and gaskets. Adhesives will benefit from the rising use of plastics in motor vehicle manufacture, since plastics are compatible with adhesives and cannot be welded. Additionally, structural adhesives will increasingly be utilized in vehicle assembly due to their light weight and improved crash resistance. Similarly, sealants will find greater use at the expense of mechanical gaskets based on their resistance to corrosion and chemicals, as well as their ability to reduce noise and vibration while also providing significant cost savings.
Demand for urethane-based automotive coatings is projected to climb 9.2% per year to $2.4 billion in 2014, slightly outpacing gains in the automotive coating market overall. Urethane coatings continue to dominate this segment of the market, accounting for more than half of overall demand through 2014. Volume demand is also expected to advance at a healthy pace, rebounding from the declines of the 2004-2009 period on the basis of rising motor vehicle output.

Demand is also expected to benefit from the utilization of urethane polymer systems in powder coating formulations and as plastic coatings. Additionally, efforts to reduce VOC emissions inside vehicles will have a positive impact on the use of water-based polyurethane coatings.

Urethane-based automotive coatings find use at both the OEM and aftermarket levels, with the majority of demand attributable to the OEM market. The coatings are primarily utilized in applications requiring high gloss or smooth textures. At the OEM level, urethane polymers are used in a variety of formulations including solvent-based, water-based and powdered. Polyurethane coatings can be applied to a variety of substrates, including metal and plastic. Interior applications include the coating of steering wheels, instrument panels, air bag covers, consoles and glove box doors. Exterior applications include full car bodies, plastic body panels, cladding, fascia and bumpers, wheel covers and mirror housings. In exterior applications at the aftermarket level, urethane polymers are generally used in solvent-based formulations.

Urethane coatings are typically available in one- and two-component formulations. One-component polyurethane coatings consist of blocked polyisocyanates. Due to the high temperatures required for curing, the use of this coating type on plastics is limited. Two-component polyurethane coatings consist of hydroxyl functional polyols, pigments and additives that are combined with a group of polyisocyanate resin. The two components are mixed immediately before application to begin the chemical reaction responsible for curing the coating.
Sample Profile, Table & Forecast

Dow Corning Corporation
2200 West Salzburg Road
Midland, MI 48686
989-496-4400
http://www.dowcorning.com

Sales: $5.1 billion (2009, as reported by company)
Employment: 10,000 (2009, as reported by company)
Key Products: silicone-based anti-friction coatings and sealants

The Company is active in the US automotive coating, adhesive and sealant industry through the production of silicone-based anti-friction coatings and sealants. Among these products are MOLYKOTE anti-friction coatings for metal, elastomer and engineered polymer end uses. These coatings are engineered to reduce squeaking and rattling in a number of interior and exterior automotive parts. Dow Corning’s automotive sealants include types for powertrain case, sideview mirror and valve applications. Specifically, the Company makes DOW CORNING sealants, which are available in thermally-conductive, silicone glazing, heat-resistant, ready-to-vulcanize and multi-surface types, among others. Furthermore, Dow Corning produces SEALASTIC sealants for powertrain case, sideview mirror and valve applications. These sealants are designed to provide resistance to mineral and other oils.

TABLE V-7
ACRYLIC AUTOMOTIVE ADHESIVE DEMAND
(million dollars)

<table>
<thead>
<tr>
<th>Item</th>
<th>1999</th>
<th>2004</th>
<th>2009</th>
<th>2014</th>
<th>2019</th>
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<tr>
<td>Automotive Adhesive Demand</td>
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<td>% acrylic</td>
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<td>Acrylic Automotive Adhesive Demand</td>
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<td>Exterior</td>
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<tr>
<td>Acrylic Automotive Adhesives (mil lb)</td>
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</table>

“Demand for acrylic adhesives in the automotive market is projected to expand in line with overall automotive adhesives demand, rising 12.7 percent per year to $111 million in 2014. Gains will continue to be promoted by the displacement of urethane adhesives in favor of acrylic types in certain structural applications. Additionally, UV-cured acrylic adhesives will continue to provide opportunities for growth in the automotive assembly sector.”

--Section V, pg. 112

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OTHER STUDIES

World Emulsion Polymers
Global demand for emulsion polymers will rise 5.2% annually through 2014, driven by rising demand for latex polymers used in the production of water-based paints, coatings and adhesives. Acrylics will remain the leading emulsion polymer type and grow the fastest. This study analyzes the 9.9 million metric ton world emulsion polymer industry, with forecasts for 2014 and 2019 by market, product, world region and for 14 major countries. It also evaluates company market share and profiles industry players.
#2686 .......... October 2010 ............... $5700

World Architectural Paint
Global demand for architectural paints will rise 3.6% yearly through 2013. The fastest gains will arise in emerging markets, mostly in Asia. The North American market will benefit from a recovery in the US housing market. Water-based formulations will continue to gain market share. This study analyzes the $42 billion world architectural paint industry, with forecasts for 2013 and 2018 by market, end-user, formulation, world region and for 23 countries. It also evaluates company market share and profiles industry participants.
#2604 .......... March 2010 ............... $5800

Construction Chemicals
US on-site construction chemical demand will rise 3.4% yearly through 2013. Gains will be driven by a rebound in the housing market, a shift to higher value products and solid home improvement and repair spending. Caulks and adhesives will surpass protective coatings and sealers as the largest product segment by 2013. This study analyzes the $7.7 billion US construction chemical industry, with forecasts for 2013 and 2016 by product and application. It also evaluates company market share and profiles industry players.
#2569 .......... January 2010 ............... $4700

Packaging Inks, Coatings & Additives
US demand for packaging inks, coatings and additives will rise 2.5% yearly through 2013. Demand will benefit from more environmentally friendly packaging, which will foster new sustainable and efficient products such as powder coatings, energy-curable inks and coatings, and bioplastic additives. This study analyzes the $2.6 billion US packaging inks, coatings and additives industry, with forecasts for 2013 and 2018 by product type, substrate and packaging type. It also evaluates company market share and profiles industry players.
#2587 .......... December 2009 ............. $4600

Specialty Adhesives
US specialty adhesives demand will rise 4.4% yearly through 2013. Strong growth in the medical product and automotive markets will fuel gains in the dominant manufacturing segment. The on-site construction market will grow the fastest. Cyanoacrylates and radiation-cured acrylic adhesives will be the fastest growing types. This study analyzes the $2.4 billion US specialty adhesives industry, with forecasts for 2013 and 2018 by product and market. It also evaluates market share and profiles industry competitors.
#2561 .......... October 2009 ............... $4700

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