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# Specialty Fuel Additives

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US Industry Study with Forecasts for **2012 & 2017**

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Study #2440 | January 2009 | \$4500 | 201 pages

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**The Freedonia Group**

767 Beta Drive

Cleveland, OH • 44143-2326 • USA

Toll Free US Tel: 800.927.5900 or +1 440.684.9600

Fax: +1 440.646.0484

E-mail: [info@freedoniagroup.com](mailto:info@freedoniagroup.com)

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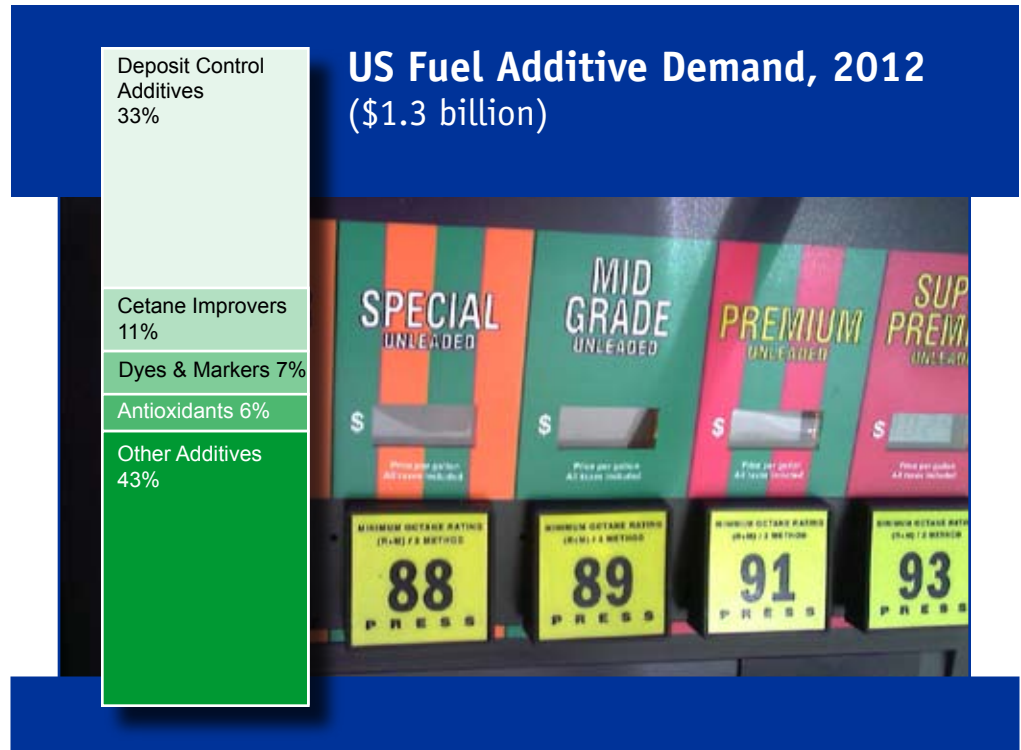
*The long-term outlook for fuel additives will continue to be shaped by government legislation at both the federal and state levels, along with the greater fuel performance needs of newer engines.*

## US demand to reach \$1.3 billion by 2012

US demand for specialty additives used in gasoline and other fuels is forecast to increase 2.9 percent per year to \$1.3 billion in 2012, expanding from an already healthy 2007 base. Volume demand is expected to expand 2.1 percent annually to 795 million pounds during the same period. Above average growth for deposit control agents -- the largest segment of fuel additives -- will continue to support the market. Corrosion inhibitors and additives used in diesel fuel, such as cold flow improvers, will show the fastest growth. The long-term outlook for fuel additives will continue to be shaped by government legislation at both the federal and state levels, along with the greater fuel performance needs of newer engines.

## Diesel additives, corrosion inhibitors to grow fastest

Deposit control agents are expected to reach 371 million pounds in 2012. Growth is expected to slow from the 9.1 percent per year experienced in value gains from 2002 to 2007. In 2004, four major automotive companies -- BMW, General Motors, Honda and Toyota -- instituted voluntary higher usage standards known as Top Tier Detergent Gasoline, which caused gasoline producers to substantially increase additization. In the future, declining demand for premium unleaded gasoline, which requires higher additive loadings, is expected to weaken demand for



deposit control additives as well as other additives used in the gasoline pool.

Environmentally-driven legislation, particularly for diesel fuel, is expected to continue to spur demand for additives capable of maintaining the performance characteristics of clean fuels. Starting in June 2006, ultra low sulfur diesel (ULSD) was required for highway use and these more stringent requirements will be phased in for nonhighway diesel fuels through 2014. In addition, the Energy Information and Security Act of 2007 includes expanded renewable fuels standards, incorporating biodiesel requirements of one billion gallons in 2012. These regulations will particularly boost demand for cold flow improvers, which are necessary to increase the

performance of ULSD and biodiesel in colder climates. Corrosion inhibitors are also expected to show above average growth through 2012 as these additives are needed to counteract the effects of higher oxygenate levels in fuel.

Lubricity improver demand will rise at an above average annual pace from 2007 to 2012, much slower than the 16.4 percent annual growth seen from 2002 to 2007. The reduced sulfur requirements of ULSD also remove lubricity that sulfur adds to fuel, which is necessary for smooth engine operation. However, the increased use of biodiesel, which has better lubricity properties than ULSD, is expected to offset demand somewhat.

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**Sample Text,  
 Table & Chart**

**SPECIALTY FUEL ADDITIVES BY TYPE**

**Deposit Control Additives**

Demand for deposit control additives in gasoline is forecast to increase at a rate of 1.5 percent annually to \$4.5 billion by 2017. The demand is forecast to increase from 2002 to 2007. In 2002, demand was \$3.5 billion, slowing from 2002 to 2007. In 2007, demand was \$4.5 billion. More stringent engine performance requirements from mobile manufacturers to improve engine performance-decreasing emissions. The efforts of automakers, supported by gasoline companies, differentiate what the public largely views as a quality issue. This support demand for additives which both prevent and remove deposits.

Engine deposits are formed when unburned fuel and oil vaporize and condense into a liquid on metal engine parts; while some of this liquid evaporates and is burned, the rest undergoes a chemical reaction to become polymerized engine deposits. These deposits are a normal byproduct of the combustion process and can build up to levels that cause power loss, engine misfiring and knocking, increased fuel consumption and elevated engine smoking. This buildup can also increase emissions of NOx and unburned hydrocarbons. Engine deposits are composed primarily of carbon, oxygen and hydrogen, in addition to smaller amounts of nitrogen and other various components. These deposits can form on combustion chamber walls, intake valves and ports, carburetors and fuel injectors.

The effect of deposits on engine performance increases as a vehicle ages and deposits accumulate. Over time, combustion chamber deposits increase the chamber's temperature while decreasing its volume, which encourages engine knock and can contribute to the octane requirement increases (ORIs) that affect about one-third of all US passenger cars. Excess deposits, which can develop within the first 1,000 miles of a

77

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**TABLE V-1**

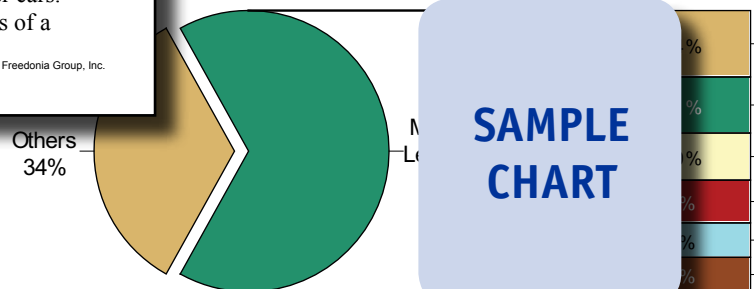
**SPECIALTY FUEL ADDITIVE DEMAND BY TYPE  
 (million dollars)**

| Item                                | 1997 | 2002 | 2007 | 2012 | 2017 |
|-------------------------------------|------|------|------|------|------|
| Petroleum Fuel Production (bil gal) | 20.0 | 20.0 | 20.0 | 20.0 | 20.3 |
| lb additive/000 gal fuel            | 5.0  | 5.0  | 5.0  | 5.0  | 5.0  |
| Fuel Additive Demand (mil lb)       | 100  | 100  | 100  | 100  | 100  |
| \$/lb                               | 6.0  | 6.0  | 6.0  | 6.0  | 6.0  |
| Fuel Additive Demand                | 5.0  | 5.0  | 5.0  | 5.0  | 5.0  |
| Deposit Control Agents              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Cetane Improvers                    | 6.0  | 6.0  | 6.0  | 6.0  | 6.0  |
| Dyes & Markers                      | 1.0  | 1.0  | 1.0  | 1.0  | 1.0  |
| Antioxidants                        | 6.0  | 6.0  | 6.0  | 6.0  | 6.0  |
| Lubricity Improvers                 | 1.0  | 1.0  | 1.0  | 1.0  | 1.0  |
| Corrosion Inhibitors                | 3.0  | 3.0  | 3.0  | 3.0  | 3.0  |
| Cold Flow Improvers                 | 7.0  | 7.0  | 7.0  | 7.0  | 7.0  |
| Metal Deactivators                  | 3.0  | 3.0  | 3.0  | 3.0  | 3.0  |
| Other                               | 8.0  | 8.0  | 8.0  | 8.0  | 8.0  |

**SAMPLE  
 TABLE**

**CHART VII-1**

**SPECIALTY FUEL ADDITIVE MARKET SHARE, 2007  
 (\$1.1 billion)**



**SAMPLE  
 CHART**

## Sample Profile, Table & Forecast

**TABLE VI-8**  
**BLENDER & TERMINAL DEMAND**  
**FOR SPECIALTY FUEL ADDITIVES**  
 (million pounds)

| Item                               | 1997 | 2002 | 2007 | 2012 | 2017 |
|------------------------------------|------|------|------|------|------|
| Total Fuel Additive Demand         | 500  | 550  | 600  | 650  | 700  |
| % blender & terminal               | 2    | 2    | 2    | 2    | 2    |
| Blender & Terminal Additive Demand |      |      |      |      |      |
| Deposit Control Additives          |      |      |      |      |      |
| Cetane Improvers                   |      |      |      |      |      |
| Lubricity Improvers                |      |      |      |      |      |
| Cold Flow Improvers                |      |      |      |      |      |
| All Other Additives                |      |      |      |      |      |



### COMPANY PROFILES

#### Buckman Laboratories Incorporated

1256 North McLean Boulevard  
 Memphis, TN 38108  
 901-278-0330  
<http://www.buckman.com>

Annual Sales (2007/08)  
 Employment

#### Key Products

Buckman Laboratories is a privately held manufacturer of specialty fuel additives, water treatment and leather care products. It is owned by Bulab Holdings.



The Company is active in the US fuel additives industry through the production of microbiocides. Buckman Laboratories' fuel additives comprise BUSAN DFP types, which were introduced in 2007. BUSAN DFP microbiocides are formulated to offer preservative properties when used in biodiesel and biodiesel fuel blends. The Company also offers products designed to reduce problems associated with the transport, storage and combustion of most types of fuel.

Buckman Laboratories conducts operations in North and Latin America, Europe, the Asia/Pacific region and Africa. In North America, the Company maintains plants in the US, Canada and Mexico. In the US, Buckman Laboratories has production sites in Memphis, Tennessee and Cadet, Missouri. In Canada, the Company's Buckman Laboratories of Canada Limited subsidiary has a plant in Vaudreuil, Quebec. Operations in Mexico are conducted by the Buckman Laboratories SA de CV subsidiary, which has a production center in Cuernavaca.

"Demand for specialty fuel additives by blenders and terminals is expected to grow 1.9 percent per year to 430 million pounds in 2012. Although this is slower growth than the 6.8 percent per year increase seen from 2002 to 2007, demand will be supported by higher than average blending of cold flow and lubricity improvers required by ultra low sulfur diesel fuel. Deposit control additives will be on par with the overall average after growing strongly -- 8.0 percent per year -- from 2002 to 2007."



**OTHER STUDIES**

**World Well Stimulation Materials**

This study analyzes the global well stimulation material industry. It presents historical demand data for the years 1997, 2002 and 2007, and forecasts for 2012 and 2017 by material type (e.g., base fluid materials, additives, proppants, gases), key national market (e.g., US, Russia, Canada, China) and world regional market (Latin America, Asia/Pacific, Africa/Mideast, Europe). The study also considers market environment factors, details industry structure, evaluates company market share and profiles industry participants.

#2458.....02/2009..... \$5700

**World Lubricants**

This study analyzes the global lubricant industry. It presents historical demand data for 1997, 2002 and 2007 and forecasts for 2012 and 2017 by lubricant formulation (e.g., petroleum, synthetic, re-refined, vegetable-based), product (e.g., engine oils, process oils, hydraulic fluids, metalworking fluids), market (e.g., motor vehicle aftermarket, manufacturing), world region and major country. The study also considers market environment factors, evaluates company market share and profiles industry players.

#2454.....02/2009..... \$5700

**World Oilfield Chemicals**

Global demand for oilfield chemicals will grow 5.7% annually through 2012. Gains will be driven by continuing growth in oil and gas production, and high levels of rotary drilling rigs in use and of wells drilled. North America will remain the dominant market while Latin America and the Asia/Pacific region will grow the fastest. This study analyzes the \$15.2 billion world oilfield chemical industry, with forecasts for 2012 and 2017 by type, world region and for 27 countries. It also details market share and profiles industry players.

#2437.....11/2008..... \$5700

**Lubricants**

US market value for lubricants will rise 4% annually through 2012, driven by the impact of high base oil costs and shifts toward higher-quality formulations. The key engine oil segment will grow the fastest based on increasing motor vehicles in use and continued growth in the "do-it-for-me" engine oil change market. This study analyzes the \$13.4 billion US lubricant industry, with forecasts for 2012 and 2017 by base oil, lubricant product and market. It also evaluates company market share and profiles industry players.

#2384.....09/2008..... \$4700

**Solvents**

Demand for solvents in the US will reach 11.8 billion pounds in 2012. Esters and alcohols will exhibit the best growth within the conventional solvents product group, though green solvents such as hydrogen peroxide and supercritical fluids will post more rapid gains. This study analyzes the \$5.5 billion US solvents industry, with forecasts for 2012 and 2017 by solvent product, market and function. It also considers market environment factors, evaluates company market share and profiles industry players.

#2357.....06/2008..... \$4600

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