Oilfield Chemicals

US Industry Study with Forecasts for 2013 & 2018

Study #2546 | September 2009 | $4800 | 307 pages
Table of Contents

EXECUTIVE SUMMARY

MARKET ENVIRONMENT

General ............................................. 4
Macroeconomic Environment .................... 5
Petroleum & Natural Gas Outlook ............... 10
Natural Gas ....................................... 12
Exploration & Reserves ........................... 14
Production ......................................... 16
Drilling ............................................. 20
Pricing .............................................. 22
Petroleum .......................................... 24
Exploration & Reserves ........................... 26
Production ......................................... 28
Drilling ............................................. 32
Pricing .............................................. 34
Oilfield Services Outlook ......................... 37
Enhanced Oil Recovery ............................ 40
Historical Market Trends .......................... 42
Raw Material Pricing Trends ....................... 46
Formulated Product Pricing Trends ............... 47
Environmental & Regulatory Considerations ... 49
Foreign Trade ....................................... 52
International Environment ....................... 53
World Oil & Gas Reserves ......................... 54
Petroleum .......................................... 55
Natural Gas ........................................ 56
World Oil & Gas Production ....................... 59
World Oilfield Chemicals Outlook ............... 60

TECHNOLOGY

General ............................................. 63
Well Drilling ...................................... 64
Directional Drilling ................................ 65
Horizontal Drilling ................................ 66
Expandable Technologies ......................... 68
Coiled Tubing Drilling ............................. 69
Dual-Gradient Drilling ............................. 70
Other Drilling Technologies ....................... 71
Drilling Fluids ..................................... 72
Well Completion & Workover ....................... 74
Coal Bed Methane .................................. 77
Well Stimulation .................................... 78
Hydraulic Fracturing ............................... 78
Acidizing .......................................... 81
Types .............................................. 81
Uses ............................................... 82
Retardation of Acid Reactions ..................... 84
Fracture Acidizing ................................ 85
Other Well Stimulation Techniques & Technology ... 86
Well Stimulation Fluids ......................... 88
Foamed Fracturing Fluids ....................... 91
Acidizing Fluids .................................. 92
Foamed Acidizing Fluids ....................... 92
Enhanced Oil Recovery ............................ 93
Thermal Recovery .................................. 94
Gas Recovery ...................................... 94
Chemical Recovery ............................... 95
Other EOR Methods ............................... 96
Other Oilfield Technologies ....................... 97

OILFIELD CHEMICAL PRODUCTS

General ............................................. 99
Stimulation Chemicals ............................ 102
Drilling Fluids ..................................... 105
Product Characteristics ........................... 107
Demand by Type ................................. 109
Water-Based ...................................... 112
Synthetic-Based ................................... 113
Oil-Based ......................................... 114
Demand by Location .............................. 115
Market Share ...................................... 118
Production Chemicals ............................ 120
Demulsifiers & Related Products ................. 123
Corrosion & Scale Inhibitors ...................... 125
Lubricants ......................................... 127
Asphaltene & Paraffin Inhibitors ................. 129
Biocides .......................................... 131
Defoamers ....................................... 133
Other ............................................... 134
Market Share ...................................... 136
Cementing Chemicals ............................. 138
Completion & Workover Fluids .................... 140
Product Characteristics ........................... 141
Market Share ...................................... 142
EOR Products ...................................... 145

OILFIELD CHEMICAL RAW MATERIALS

General ............................................. 149
Commodity Chemicals ............................ 151
Cement ............................................ 154
Barite ............................................. 158
Bromine Compounds .............................. 161
Acids .............................................. 163
Calcium Chloride .................................. 165
Clays .............................................. 167
Other Commodity Chemicals ...................... 169
Specialty Chemicals .............................. 171
Surfactants ....................................... 173
Other Specialty Chemicals ....................... 176
Polymers .......................................... 179
Cellulose Polymers ............................... 182
Natural Gums ..................................... 184
Guar Gum ......................................... 186
Xanthan Gum ..................................... 187
Other Gums ....................................... 188
Polyacrylamides .................................. 188
Other Polymers ................................... 190
Gases .............................................. 192
Nitrogen .......................................... 194
Carbon Dioxide ................................... 196
Other Raw Materials .............................. 199

INDUSTRY STRUCTURE

General ............................................. 203
Market Share ...................................... 207
Formulated Product Market Share ............... 208
Raw Material Market Share ....................... 211
Industry Restructuring ............................ 213
Cooperative Agreements .......................... 215
Marketing & Distribution ......................... 216
Research & Development ......................... 219
Competitive Strategies ........................... 221

COMPANY PROFILES

Air Products and Chemicals ...................... 225
Akzo Nobel ........................................ 227
Albemarle Corporation ............................ 229
AMCOL International .............................. 231
Ashland Incorporated ............................. 233
Baker Hughes ...................................... 236
BASF SE ........................................... 241
BJ Services ........................................ 243
Capitol Aggregates ................................ 246
CEMEX SAB ....................................... 247
Champion Technologies ......................... 248
Chembura Corporation ............................ 250
Chevron Phillips Chemical ....................... 251
Clariant International ............................. 253
Cognis Deutschland .............................. 255
Corda International .............................. 256
Dow Chemical ..................................... 258
DuPont (EI) de Nemours ......................... 261
Elementis plc ..................................... 262
Emery Oleochemicals ............................. 264
Enersol Chemicals International ................ 265
GEO Drilling Fluids .............................. 266
Halliburton Company ............................. 267
International Specialty Products ................. 271
Israel Chemicals .................................. 272
Kemira Oy ........................................ 274
Kinder Morgan Energy Partners ................. 275
Koch Industries .................................... 277
Lafarge SA ......................................... 278
Lubrizol Corporation .............................. 280
Messa Incorporated ............................... 281
Nalco Holding ..................................... 283
Newpark Resources ............................... 285
Patterson-UTI Energy ............................. 287
Praxair Incorporated .............................. 289
Rhodia SA .......................................... 290
Roemex Limited .................................. 292
Schlumberger Limited .............................. 293
Smith International ............................... 295
TETRA Technologies ............................. 299
Texas Industries .................................... 301
Weatherford International ......................... 303
Other Companies Involved in the Oilfield Chemicals Industry .......... 305
List of Tables

EXECUTIVE SUMMARY
1. Summary Table........................................ 3

MARKET ENVIRONMENT
1. Macroeconomic Indicators ................................10
2. US Oil & Natural Gas Production .................. 12
3. US Natural Gas Supply & Demand ............... 14
4. Natural Gas Drilling Indicators ...................... 21
5. US Petroleum Supply & Demand ............... 26
6. Petroleum Drilling Indicators ...................... 33
7. Oilfield Services Indicators ......................... 39
8. US Enhanced Oil Recovery Outlook ............ 42
10. Prices for Selected Oilfield Chemical Raw Materials .................. 47
11. Prices for Selected Oilfield Chemical Products .................. 48
12. Petroleum Reserves by Country, 2008 .... 56
13. Natural Gas Reserves by Country, 2008 .... 58
14. World Oil & Gas Production ....................... 60

OILFIELD CHEMICAL PRODUCTS
1. Formulated Oilfield Chemical Demand by Type .................. 101
2. Oilfield Stimulation Chemical Demand .................. 105
3. Drilling Fluids Demand ............................... 107
4. Selected Drilling Fluid Additives & Their Functions .......................... 109
5. Drilling Fluid Demand by Type .................... 110
6. Water-Based Drilling Fluid Demand .................. 113
7. Synthetic-Based Drilling Fluid Demand .................. 114
8. Oil-Based Drilling Fluid Demand .................... 115
9. Drilling Fluid Demand by Location ............... 118
10. Oilfield Production Chemical Demand by Type .................. 122
11. Demulsifier & Related Product Demand in Oilfield Applications .................. 125
12. Corrosion & Scale Inhibitor Demand in Oilfield Applications .................. 127
13. Lubricant Demand in Oilfield Applications .................. 129
14. Ashaltene & Paraffin Inhibitor Demand in Oilfield Applications .................. 131
15. Biocide Demand in Oilfield Applications .................. 132
16. Defoamer Demand in Oilfield Applications .................. 134
17. Other Oilfield Production Chemicals Demand .................. 136
18. Oilfield Cementing Chemicals Demand ............ 140
19. Completion & Workover Fluids Demand .......... 141
20. Enhanced Oil Recovery (EOR) Products Demand .................. 148

OILFIELD CHEMICAL RAW MATERIALS
1. Oilfield Chemical Raw Material Demand by Type .................. 150
2. Commodity Chemical Demand in Oilfield Applications .................. 153
3. Cement Demand in Oilfield Applications .................. 158
4. Barite Demand in Oilfield Applications .......... 161
5. Bromine Compound Demand in Oilfield Applications .................. 163
6. Acids Demand in Oilfield Applications ............ 165
7. Calcium Chloride Demand in Oilfield Applications .................. 167
8. Clay Demand in Oilfield Applications ............ 169
9. Other Commodity Chemical Demand in Oilfield Applications .................. 171
10. Specialty Chemical Demand in Oilfield Applications .................. 173
11. Surfactant Demand in Oilfield Applications .................. 176
12. Other Specialty Chemical Demand in Oilfield Applications .................. 179
13. Polymer Demand in Oilfield Applications .................. 181
14. Cellulose Polymer Demand in Oilfield Chemical Applications .................. 184
15. Natural Gum Demand in Oilfield Applications .................. 186
16. Polycrylamide Demand in Oilfield Applications .................. 190
17. Other Polymer Demand in Oilfield Applications .................. 192
18. Gases Demand in Oilfield Applications .......... 194
19. Nitrogen Demand in Oilfield Applications .................. 196
20. Merchant Carbon Dioxide Demand in Oilfield Applications .................. 199
21. Other Raw Material Demand in Oilfield Applications .................. 202

INDUSTRY STRUCTURE
1. US Oilfield Chemical Sales by Company, 2008 .................. 205
2. Selected Acquisitions & Divestitures .................. 215
3. Research & Development Expenditures for Selected Oilfield Chemical Firms ........ 221

MARKET ENVIRONMENT
1. US Natural Gas Reserves, 1998-2008 .................. 16
2. Natural Gas Production, 1998-2008 .................. 18
3. Natural Gas Producing States, 2008 .................. 19
5. Natural Gas Wellhead Prices, 1998-2008 .................. 23
9. Crude Oil Producing States, 2008 .................. 31
13. Oilfield Chemical Market, 1998-2008: Formulated Product Demand, Oil Prices, Gas Prices & Active Rig Count .................. 45

OILFIELD CHEMICAL PRODUCTS
1. Formulated Oilfield Chemical Demand by Type, 2008 .................. 102
2. Drilling Fluid Demand by Type: Value & Volume .................. 111
3. Drilling Fluid Market Share, 2008 .................. 120
4. Oilfield Production Chemical Demand by Type, 2008 .................. 123
5. US Petroleum Chemical Market Share .................. 138

OILFIELD CHEMICAL RAW MATERIALS
1. Oilfield Chemical Raw Material Demand by Type, 2008 .................. 151
2. Commodity Chemical Demand in Oilfield Applications, 2008 .................. 154

INDUSTRY STRUCTURE
1. US Formulated Oilfield Chemical Market Share .................. 209
2. Oilfield Chemical Raw Material Market Share .................. 213
A pronounced slump in demand for oilfield chemicals in the short term is expected to be followed by a significant recovery by 2013, attributable mainly to swings in oil and gas pricing.

**US demand to grow 4.4% annually through 2013**

Demand for oilfield chemicals is projected to increase 4.4 percent per year to $10.7 billion in 2013, although the industry’s growth trajectory during this period will be uneven. A pronounced slump in demand in the short term is expected to be followed by a significant recovery by the end of the forecast period. The decline and rebound will be attributable mainly to oil and gas pricing. After hitting all-time highs in mid 2008, prices dropped precipitously in the second half of the year. As a result, drilling activity declined dramatically, dipping below 900 rigs in early 2009 (from a high of more than 2,000 in mid 2008). However, oil prices had begun to rebound by mid 2009, and this upward trend is expected to continue. The rig count is projected to increase to nearly 1,600 in 2013, aided not only by higher oil and gas prices, but also the development of high profile new fields such as the Marcellus Shale in the Eastern US.

**Stable market conditions expected for most products**

In the short term, drilling fluids are expected to suffer sharp overall market value declines before rallying later in the forecast period. Despite the poor current conditions, the overall level of oilfield activity -- and, as a result, demand for oilfield chemicals and their raw materials -- is expected to recover. Well completion numbers are expected to grow over the course of the forecast period, boosting demand for completion chemicals. Stimulation techniques such as hydraulic fracturing and acidizing will continue to grow, as an increasing number of wells are fractured or otherwise subjected to stimulation methods upon initial completion. Enhanced oil recovery (EOR) techniques will remain an attractive option as prices return to levels more comparable to those seen in recent years, boosting demand for gases and other products used in these operations. Although some components of the upstream oil and gas industry are undeniably volatile, others are comparatively stable. Despite dramatic changes in rig counts and oil prices, US oil and gas production levels are quite consistent, and changes in production from one year to the next are typically modest, allowing for stable market conditions for such materials as production-related chemicals.

Prospects for raw materials used in the formulation of oilfield chemical products are rooted in the outlook for the finished products in which they are used. Acids and polymers used in stimulation fluids are likely to register growth, driven by continued expansion of well stimulation technologies. In contrast, clays and other commodities used in drilling fluids are likely to see declines early in the forecast period, followed by significant rallies in the latter half.
OILFIELD CHEMICAL RAW MATERIALS

Cellulose Polymers

Demand for cellulose polymers in oilfield applications is projected to decline 3.2 percent annually through 2013 to $168 million, with volume demand dropping to 58 million pounds. The primary factor in these losses is the declining short-term outlook for drilling fluids, particularly in the natural gas sector. However, growth in some smaller outlets for cellulose polymers -- such as stimulation chemicals and completion fluids -- will help to cushion the decline to some extent.

Environmental concerns have resulted in stronger regulations for drilling fluids, a development that benefits cellulose polymers, which offer environmental advantages over some products that compete. The continuing shift favoring water-based fluids will also aid cellulose polymer demand, as these products are water-soluble and perform well in water-based fluids.

The most widely used cellulose polymers are carboxymethyl cellulose (CMC) and hydroxyethyl cellulose (HEC). Polyacrylic acid (PAC) and other products, including hydroxypropyl cellulose and carboxymethyl hydroxyethyl cellulose, are also used in lesser quantities. These products are based on water-soluble cellulose ethers, which are produced through the chemical modification of cellulose, a naturally occurring polymer derived from the photosynthesis of wood pulp, cotton, or other plants. The chemical modification renders the cellulose ether nonionic or anionic. A relatively new class of cellulose ethers -- cationic -- has been developed, but applications in the oilfield industry are few.

CMC and PAC polymers are used in drilling, workover and completion fluids, although drilling accounts for a large majority of use. In drilling applications, CMC polymers function as thickening and suspending agents. CMCs used in drilling muds are available in low viscosity and high viscosity grades, with each having API specifications. Viscosity...
Sample Profile, Table & Forecast

Enerchem International Incorporated
450, 440 Two Avenue Southwest
Calgary, Alberta T2P 5E9
Canada
403-269-1500
http://www.enerchem.com

Revenues:

Employment:
100 (2008)

Key Products:
fracturing and drilling fluids

Enerchem International manufactures, blends and distributes hydrocarbon-based well servicing fluids for the oil and gas production and processing industries. In addition, the Company is a provider of energy marketing services, fluid transportation and related oilfield services. Enerchem operates in three segments: Oilfield Services, Energy Marketing and Transportation Services.

The Company participates in the US oilfield chemical industry via the Oilfield Services segment, which reported 2008 revenues of US$67 million. Through the segment, Enerchem produces and sells hydrocarbon products, including fracturing and drilling fluids. The Company’s fracturing fluids are made and sold under the FRACSOL brand name. These oil-based chemicals are used to stimulate oil production from a formation by inducing fractures and fissures. Drilling fluids from Enerchem include DRILLSOL and DRILLSOL PLUS oil-based, biodegradable products. DRILLSOL and DRILLSOL PLUS drilling fluids are employed to cool the drill bit, lubricate the drill pipe and carry rock cuttings to the surface. These products also provide borehole stability and can be used in deep wells affected by shale sloughing.

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“Demand for asphaltene and paraffin inhibitors used in oilfield production applications is forecast to expand 2.7 percent annually through 2013 to $200 million, with volume demand reaching 165 million pounds. These gains are being driven by modest increases in oil and natural gas production, including strenuous efforts to maintain productivity levels for marginal wells. Asphaltene and paraffin removal is necessary to ensure that production remains unimpeded. Furthermore, …”

--Section IV, pg. 129
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