Sterile Medical Packaging

US Industry Study with Forecasts for 2012 & 2017

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The fastest gains are expected in pharmaceutical and biological applications, reflecting the commercialization of biotechnology-based therapies delivered via injection or inhalation.

US demand to climb 6.1% annually through 2012

Demand for sterile medical packaging is projected to climb 6.1 percent per annum to $6.5 billion in 2012, representing nearly 37 billion units. Growth will be fueled by the shift to an older demographic, which will lead to a rising incidence of acute and chronic conditions and an increasing volume of patient activity. Upward trends in patient activity will broaden the overall use of sterile medical products, impacting favorably on demand for related packaging. In addition, the sterile medical packaging market will benefit from ongoing product development activity in pharmaceuticals and medical devices and the upgrading of health care infection prevention standards. While unit gains will be similar to the 2002-2007 period, more moderate value demand growth will reflect slower price increases.

Pharmaceutical, biological applications to lead gains

The fastest gains are expected in pharmaceutical and biological applications, reflecting the commercialization of sophisticated biotechnology-based therapies delivered via injection or inhalation. This factor will support above-average gains for prefillable syringes, vials and ampules, prefillable inhalers and closures. These products are widely used with biotechnology-based drugs, which have high stability and sterility requirements. Demand will also be aided by widening preferences for safer, unit-dose delivery systems.

Demand in other sterile medical packaging product segments will increase more slowly, reflecting decelerating growth in surgical procedures and advances in minimally invasive surgical techniques. Still, the growing role of specialized outpatient facilities in providing health care services will strengthen opportunities for sterile medical products and related packaging such as thermoformed trays, pouches, bottles, sterilization wrap, blister and clamshell packs, IV and blood containers, and bags. Fastest growth among these products is anticipated for trays, pouches and blister and clamshell packs.

Despite competition from less costly pouches and bags, advances for trays and blister and clamshell packs will be supported by higher protective properties, which reduce the risk of damage during transport and storage. Trays will further benefit from advantages of infection prevention, labor saving, cost accounting and storage convenience. Multiple compartment trays will gain ground as they virtually eliminate the risk of staff errors in the collection and organization of products required for various procedures. Gains for pouches will reflect improved strength, puncture resistance and barrier properties, which will lead to expanding applications in the unit-of-use packaging of small- to medium-sized supplies and devices.
MATERIALS

High Density Polyethylene

Demand for high density polyethylenes (HDPE) in sterile medical packaging applications is forecast to grow 2.7 percent annually to 160 million pounds, valued at $180 million, in 2012. HDPE's advantages as a sterile packaging material include strong impact and chemical resistance, excellent drug compatibility, moisture resistance, rigidity, effective moisture and gas barrier properties, compatibility with ethylene oxide and radiation sterilization, and acceptable cost. High value-added grades of the resin, including oriented and cross-laminated high molecular weight compounds, will provide the best growth opportunities based on enhanced moisture, puncture, tear and chemical resistance. Favorable growth in sterile medical packaging is also anticipated for DuPont's TYVEK, a medical nonwoven fiber produced from HDPE. Newer and less costly grades will boost demand for TYVEK in a number of applications, including tray, pouch and bag lidstock.

Slightly below-average growth for HDPE in sterile medical packaging will be based on increasing competition from polypropylene and low density polyethylene (LDPE), especially in tray, pouch and bag applications. Furthermore, HDPE cannot meet the clarity requirements of many high visibility drug containers, and therefore is not expected to penetrate high value-added applications such as IV containers and prefilled syringes. The leading sterile packaging applications for HDPE are sterilization wrap, pouches and trays, which accounted for a combined 79 percent of poundage in 2007. Other uses encompass bags, vials and ampuls, bottles and closures.

HDPE’s good barrier, product compatibility and strength properties make it well suited for the production of sterile pouches and bags. Moreover, HDPE sheet is used widely in the fabrication of thermoformed trays based on its strong impact and chemical resistance, biocompatibility, broad temperature tolerance, good barrier properties, rigidity and 137

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Sample Text, Table & Chart

TABLE III-4
VIAL & AMPUL DEMAND

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Sterile Medical Packaging (mil $) 2372 3365 4810 6480 8720

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Sample Table

Sample Chart
Oliver Products Company
445 Sixth Street Northwest
Grand Rapids, MI 49504
616-456-7711
http://www.oliverproducts.com

Annual Sales: $85 million (estimated)
Employment: 275 (estimated)
Key Products: lidding, pouches and rollstock

Oliver Products is a diversified manufacturer operating through three business units: Medical Device Packaging, Bakery Equipment, and Industrial and Food Packaging. The privately held company serves over 3,000 customers in over 40 countries. In June 2007, Oliver Products was acquired by Mason Wells Incorporated (Milwaukee, Wisconsin), a private equity firm.

The Company is active in the US sterile medical packaging industry through the Medical Device Packaging unit, which manufactures lidding, pouches and rollstock for use in packaging medical devices. Oliver Products uses its proprietary XHALE adhesives with DOT-COAT sure-seal technology to seal the Company’s sterile medical packaging products. XHALE hot melt adhesives are designed to provide accelerated ethylene oxide (EtO) sterilization cycles; good anchorage; and resistance to humidity, condensation and ultraviolet light.

Lidding from Oliver Products is manufactured using OVANTEX sterile-grade material, paper, film and TYVEK (DuPont) for packaging such medical products as surgical trays, orthopedics and implantables. This lidding can be used in EtO, autoclave and radiation sterilization.

“Parenteral vials and ampuls will remain the standard containers for injectable pharmaceuticals packaged in volumes of 50 milliliters or less. Demand for these containers is projected to rise 7.5 percent annually to over $895 million in 2012. The increasing development of bioengineered medicines will impact favorably on gains. Moderating gains will be competition from prefillable syringes and pre-mixed IV systems, along with advances in oral and inhalation drug delivery systems. Sterile plastic and glass bottle demand is expected to ...”

--Section V, pg. 167
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