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Aseptic Packaging

US Industry Study with Forecasts for **2015 & 2020**

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Growth in US aseptic packaging demand will be driven by drug sterility requirements and ambient distribution and storage advantages for food and beverages.

US demand to rise 8% annually through 2015

Demand for aseptic packaging is projected to expand 8.0 percent per year to \$5.1 billion in 2015, outpacing overall packaging demand. In unit terms, demand is expected to expand 4.1 percent annually to 52.4 billion. Growth will be driven by drug sterility requirements and distribution and storage advantages for food and beverages.

Dominant pharmaceutical market to lead gains

Through 2015, demand for aseptic packaging in the dominant pharmaceutical market is forecast to advance 8.4 percent annually to \$3.4 billion. Growth will reflect the broadening availability and consumption of biotechnology-based drugs, and aseptic filling requirements with other liquid pharmaceuticals. Additionally, opportunities will be driven by preferences among health care providers for unit-dose delivery formats, such as vials, ampuls, prefillable syringes and premixed IV solutions, for increased dosing accuracy. Growth for aseptic packaging in the beverage market will be supported by consumption trends in beverages that tend to be packaged aseptically, along with cost and environmental benefits, especially in terms of ambient shipping and storage. Gains in the food market will be driven by shelf-stability advantages, as well as by expanding applications in liquid, low-particulate and pumpable foods, often supplanting metal cans and glass jars.

US Aseptic Packaging Demand (\$5.1 billion, 2015)



Prefillable syringes to be fastest growing product

The ongoing commercialization of biotechnology-based drugs will fuel above-average demand growth for aseptic vials and ampuls, and prefillable syringes, which are prevalent delivery systems for these drugs. Prefillable syringes will represent the fastest growing aseptic packaging product type through 2015, with demand projected to expand 11.0 percent yearly to \$1.1 billion. Moreover, opportunities for aseptic prefillable syringes will benefit from safety and convenience advantages and the prevalence of chronic conditions necessitating lifetime drug regimens.

Though aseptic carton prospects will be moderated by slow unit demand growth in fruit beverage applications, robust increases are expected in other uses based on favorable consumption trends in ready-to-drink wellness-type beverages, improving aesthetics and the perception that products packaged in these containers are of higher quality than those in other container types. Safety concerns regarding bisphenol-A (BPA), a chemical used as an inner coating in metal cans, will fuel increased interest in BPA-free alternatives such as aseptic cartons. Continued opportunities are anticipated for aseptic bags and pouches, especially for bag-in-box and other large bags sold to the foodservice and food processing industries.

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Sample Text, Table & Chart

PRODUCTS

Plastic Bottles

Demand for plastic bottles for aseptic packaging is projected to increase from \$1.2 billion in 2010 to \$2 billion in 2015, representing a 67 percent increase. This growth is driven by above-average advanced aseptic packaging applications and expanding applications in pharmaceutical and beverage markets. The pharmaceutical market is particularly dynamic, driven by high capital investment and the need for aseptic packaging to maintain product efficacy. Manufacturers are expected to abandon their investment in glass bottles in favor of more efficient plastic alternatives such as those for hot-fill applications. The pharmaceutical market is expected to continue to account for the largest portion of demand based on requirements for aseptic filling for ophthalmic solutions.

Plastic bottle demand in aseptic pharmaceutical applications is expected to climb 7.8 percent per year to \$735 million in 2015, slightly below-average based on the more well-established use of plastic bottles for aseptic filling than in the food and beverage markets. In addition, bottles will face increased competition from unit-dose packaging, especially aseptic blow-fill-seal vials, which are preservative-free and offer a high level of sterility and single-use convenience. Still, continued opportunities are anticipated due to ongoing requirements for dispensing bottles with ophthalmic preparations, both ethical and over-the-counter products. Aseptic filling is necessary for the sterilization of ophthalmic solutions, which are heat-sensitive.

High density polyethylene (HDPE) and low density polyethylene (LDPE) are the most common resins employed in the production of pharmaceutical dispensing bottles. In addition, ongoing efforts by manufacturers to upgrade packaging aesthetics and barrier properties are expanding the presence of bottles made from other resins, including polyethylene terephthalate glycol (PETG) and polypropylene. Bausch & Lomb converted the packaging of its RENU FRESH contact lens solution from standard white HDPE bottles to transparent

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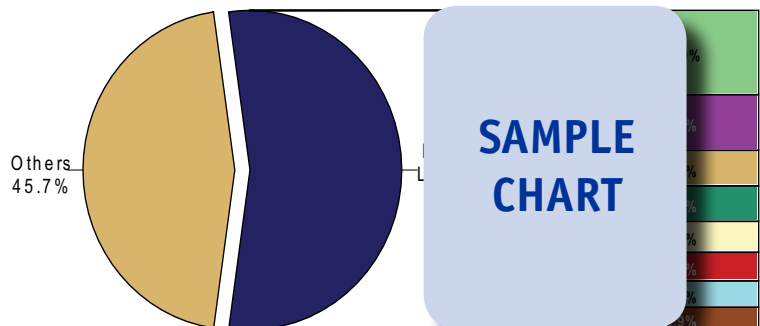
TABLE III-1

ASEPTIC PACKAGING DEMAND BY TYPE
(million dollars)

Item	2000	2005	2010	2015	2020
Total Packaging Demand (bil \$)	100	150	200	270	350
% aseptic	10	15	20	25	30
Aseptic Packaging Demand	10	22.5	40	67.5	105
Plastic Bottles	5	11.25	20	33.75	52.5
Vials & Ampuls	2	4.5	8	13.5	21
Prefillable Syringes	1	2.25	4	6.75	10.5
Bags & Pouches	1	2.25	4	6.75	10.5
Cartons	1	2.25	4	6.75	10.5
Cups	0	0	0	0	0
Glass Bottles	5	11.25	20	33.75	52.5
cents/unit	100	100	100	100	100
Aseptic Packaging Demand (bil units)	220	350	450	620	850

CHART V-1

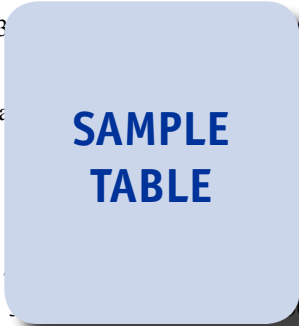
US ASEPTIC PACKAGING MARKET SHARE, 2010
(\$3.5 billion)



Sample Profile, Table & Forecast

TABLE IV-6
FRUIT BEVERAGES ASEPTIC PACKAGING DEMAND
 (million dollars)

Item	2000	2005	2010	2015	2020
Fruit Beverage Shipments (mil gal)	3	3	3	3	3
\$ pkg/000 gallons fruit beverages	3	3	3	3	3
Fruit Beverage Aseptic Packaging Demand	3	3	3	3	3
Cartons	3	3	3	3	3
Plastic Bottles	3	3	3	3	3
Bags & Pouches	3	3	3	3	3
Cups	3	3	3	3	3
% fruit beverages Beverage Aseptic Packaging Demand	3	3	3	3	3



COMPANY PROFILES

Weiler Engineering Incorporated

1395 Gateway Drive
 Elgin, IL 60123
 847-697-4900
 http://www.weilereng.com

Annual Sales:
 Employment:

Key Products: aseptic packaging

Weiler Engineering Incorporated provides aseptic packaging for sterile liquid products for pharmaceutical and health care applications. The privately held company conducts development and manufacturing activities at its headquarters in Elgin, Illinois. Weiler Engineering's products are marketed and distributed worldwide via independent distributors.

The Company's main product line is the ASEP-TECH range of blow-fill-seal (BFS) machines for aseptic liquid packaging end uses. ASEP-TECH BFS technology integrates blow molding, sterile filling and hermetic sealing in one continuous operation to produce reliable and cost-effective aseptically manufactured products. ASEP-TECH BFS machines include a blow-fill nozzle that is lowered into the parison to form a seal with the neck of the mold. The container is formed by blowing sterile filtered compressed air into the parison, expanding the air against the walls of the mold cavity. The sterile air is then expelled from the container and the sterile product is metered into the container via the fill nozzle. Separate sealing molds are used to form the top and hermetically seal the container. End uses for ASEP-TECH BFS include small- and large-volume parenterals, ophthalmic solutions and respiratory therapy products.

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"Demand for aseptic packaging in fruit beverage applications is expected to increase 4.1 percent per year to \$465 million in 2015, trailing the beverage market average due to the maturity of fruit beverages, along with competition from hot-fill processing. Aseptic cartons are the leading aseptic packaging type for fruit beverages, accounting for 55 percent of value demand in 2010."
 --Section IV, pg. 88

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OTHER STUDIES

Beverage Containers in China

Demand for beverage containers in China will rise 9.6 percent per year through 2015. Plastic beverage containers will remain the largest material segment, while paperboard containers grow the fastest, led by aseptic cartons. Milk containers will be the largest nonalcoholic beverage market, while beer remains the largest alcoholic beverage market. This study analyzes the 297 billion unit beverage container industry in China, with forecasts for 2015 and 2020 by market and material. The study also evaluates company market share and profiles industry participants.

#2815 November 2011 \$5400

Converted Flexible Packaging

Demand for converted flexible packaging in the US will rise 3.8 percent annually through 2015. Pouches will lead gains based on continued conversions to stand-up pouches and healthy gains for flat pouches, along with lighter weight and reduced material use. Bags will remain the largest segment. Food markets will outpace nonfood uses. This study analyzes the \$15.1 billion US converted flexible packaging industry, with forecasts for 2015 and 2020 by material, product and market. The study also evaluates company market share and profiles industry players.

#2807 October 2011 \$5100

World Pharmaceutical Packaging

World demand for pharmaceutical packaging is forecast to rise 5.5 percent annually through 2015. The developed countries of Western Europe, the US and Japan will account for over 70 percent of the amount, although China will provide faster growth opportunities. India and Brazil will also evolve into fast-growing markets. This study analyzes the \$47.2 billion world drug packaging industry, with forecasts for 2015 and 2020 by raw material and resin, product, world region and for 14 countries. The study also evaluates company market share and profiles industry players.

#2765 June 2011 \$6400

World Cups & Lids

World demand for cups and lids will rise five percent per year through 2014, fueled in part by advances in the quick service restaurant industry. Products made from biodegradable, recyclable or recycled materials will post robust advances. The US will remain by far the largest market, while developing regions grow the fastest. This study analyzes the \$18.3 billion world cup and lid industry, with forecasts for 2014 and 2019 by product, market, world region and for 18 countries. It also evaluates company market share and profiles industry players.

#2741 March 2011 \$5800

World Caps & Closures

World demand for caps and closures will rise 4.6 percent annually through 2014. Growth will be based in part by a shift toward higher-value closures such as child-resistant, tamper-evident and dispensing types. Some of the best opportunities will be found in the Asia/Pacific region, where over two-fifths of market gains will occur. This study analyzes the \$32 billion world cap and closure industry, with forecasts for 2014 and 2019 by material, market, world region and for 18 countries. It also evaluates company market share and profiles industry participants.

#2719 January 2011 \$6100

About The Freedonia Group

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