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Rigid Bulk Packaging

US Industry Study with Forecasts for **2012 & 2022**

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Gains will be driven in part by expanded use of larger, higher value containers that are better performing and more cost effective than smaller containers with shorter term service capability.

US demand to rise 3.9% annually through 2017

Demand for rigid bulk packaging is forecast to advance 3.9 percent per year to \$7.0 billion in 2017, accelerating from the performance of the 2007-2012 period. The improved outlook is based on a recovery in the overall economy, particularly in the motor vehicle and construction markets. This recovery will also spur turnarounds in chemical products, fabricated metal products, and plastic materials, which will boost demand for related bulk packaging.

Additionally, gains will be driven by expanded use of larger, higher value containers that offer enhanced performance and are more cost effective than smaller containers with shorter term service capability. Moreover, while the long term trend of outsourcing manufacturing to lower cost regions has lessened the share of the US manufacturing sector in the overall economy, the development of abundant natural gas supplies is expected to fuel increased investment in US chemical production as well as that of related downstream goods, which will have a positive impact on rigid bulk packaging demand.

RIBCs, material handling containers to lead gains

Rigid intermediate bulk containers (RIBCs) and material handling containers are expected to experience the fastest growth through 2017. Opportunities for RIBCs will be supported by a

US Rigid Bulk Packaging Demand (\$7.0 billion, 2017)



Drums	26%
Pails	26%
Material Handling Containers	17%
Bulk Boxes	16%
RIBCs	15%

photo: Wilhelmsen Slips Service

rebound in chemical production as well as advantages of cost effectiveness and reusability. Material handling container growth will be driven by an upswing in production of durable goods such as motor vehicles and fabricated metal products following declines during the 2007-2012 period. In addition, plastic drums are forecast to log above average gains as a result of advantages over steel drums in terms of cost, weight, and corrosion resistance. However, competition from RIBCs as well as the entrenched position of steel and fibre drums in certain applications will moderate advances. Despite the maturity of steel and fibre drums, drums will remain widely used due to their relatively low cost, reusability, effectiveness in the safe

transport of hazardous materials, and appeal to users not wishing to transition to intermediate bulk containers.

Plastic to be fastest growing packaging material

Plastic accounts for the largest share of material use in rigid bulk packaging, with steel and paperboard also significant. While all materials will experience a rebound in demand through 2017, plastic is expected to log the fastest gains, driven by numerous performance advantages. Steel and paperboard consumption will increase more slowly based on the maturity of most steel- and paper-based products.

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Sample Text, Table & Chart

PRODUCTS

Steel Drums

Shipments of steel drums are forecast to increase in 2017, with unit shipments rising 1.5 million. Prospects will be supported by ongoing activity, especially in the chemical sector. A pattern of unit declines between 2012 and 2015, however, steel drum production is expected to decline as a result of competitive pricing. Nonetheless, steel drums will remain a significant number of applications because of their durability, versatility, standardization, and amenability to holding combustible liquids. They are also frequently favored by users with smaller volumes, those not able to accommodate RIBCs. Additionally, steel drums are expected to increase more slowly than in the previous period, which rapidly rising prices occurred in several years in response to demand from China and the sharp spike in energy costs.

Steel drums have several disadvantages compared to plastic drums, such as a heavier weight (which can significantly raise shipping costs) and poor containment of corrosive substances. The weight issue has become even more problematic since the 2008 reclassification by the US Commodity Classification Standards Board of the National Motor Freight Traffic Association. This led to steel drum freight charges being determined by density rather than thickness, resulting in certain steel drums being put into higher classes than in previous years, with higher freight costs associated with the higher classes.

The increasing use of lighter gauge steel has helped steel drums to increase their competitiveness with plastic drums and other rigid bulk packaging formats. However, RIBCs have eroded the market share of steel drums in many applications due to their long term cost advantages and larger capacities. Nevertheless, steel drums will continue to

66

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TABLE IV-11

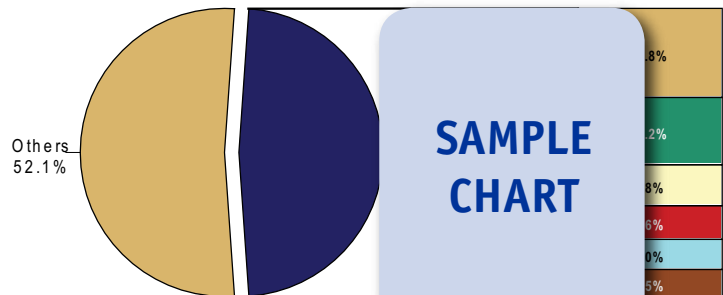
PLASTIC PAIL DEMAND BY MARKET
(million dollars)

Item	2002	2007	2012	2017	2022
Plastic Pail Shipments					
- net exports					
Plastic Pail Demand					
Chemicals & Pharmaceuticals:					
Detergents & Cleaners					
Paints & Coatings					
Adhesives & Sealants					
Industrial Chemicals					
Other Chemicals					
Food & Beverages					
Durable Goods					
Petroleum & Lubricants					
Other Markets					
% plastic pails					
Rigid Bulk Packaging Demand	40				

SAMPLE
TABLE

CHART VI-1

US RIGID BULK PACKAGING MARKET SHARE
(\$5.7 billion, 2012)

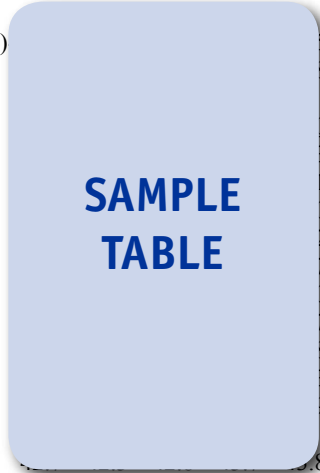


SAMPLE
CHART

Sample Profile, Table & Forecast

TABLE V-4
CHEMICAL & PHARMACEUTICAL PRODUCT MARKET FOR RIGID BULK PACKAGING BY TYPE (million dollars)

Item	2002	2007	2012	2017	2022
Chemical/Pharmaceutical Shpts (bil \$)					
\$ pkg/000\$ chemicals					
Chemical & Pharma Rigid Bulk Pkg					
Drums:					
Steel Drums					
Plastic Drums					
Fibre Drums					
Pails:					
Plastic Pails					
Steel Pails					
RIBCs					
Material Handling Containers					
Bulk Boxes					
% chemical					
Rigid Bulk Packaging Demand	4002	5250	5740	6950	8200



COMPANY PROFILES

Hoover Materials Handling Group Incorporated
 2135 Highway 6 South
 Houston, TX 77077
 281-870-8402
 http://www.hc

SAMPLE PROFILE

Annual Sales:
 Employment:

Key Products: steel, and polyethylene rigid

Hoover Materials Handling Group is a privately held manufacturer of rigid intermediate bulk containers (RIBCs), offshore tank containers, cargo carrying units, and intermodal containers for liquid and dry products in the food, petrochemical, chemical, and other industries. The Company also is engaged in container leasing, tracking, recycling, and disposal services.

The Company is involved in the US rigid bulk packaging industry through the production of stainless steel, carbon steel, galvanized steel, and polyethylene RIBCs. Stainless steel RIBCs include LIQUITOTE, CARGO VALVE LIQUITOTE, LIQUISYSTEM, AVIATIONTOTE, WINETOTE, and HOPPERTOTE types. LIQUITOTE RIBCs feature one-piece, 10-gauge stainless steel bodies with sloped bottoms to facilitate complete drainage. These RIBCs are available in 300-, 350-, 550-, and 793-gallon capacities. The Company manufactures CARGO VALVE LIQUITOTE RIBCs specifically to comply with the US Department of Transportation's Special Provision 12412, which allows the discharge of hazardous material from an IBC while loaded on a vehicle. To qualify for this provision, CARGO VALVE LIQUITOTE RIBCs have a bottom discharge system which includes an emergency

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"Plastic drum demand in chemical product applications is projected to expand 5.0 percent per year to over \$325 million in 2017, with above average growth based on a rebound in chemical production along with the many performance advantages of these containers. For example, plastic drums are less costly and lighter in weight than steel drums, with the latter a benefit that substantially lowers shipping costs. In addition, ..."
 --Section V, pg. 167

OTHER STUDIES

Protective Packaging

US protective packaging demand is projected to increase 4.5 percent per year to \$6.4 billion in 2018. E-commerce fulfillment will drive gains for protective mailers, air pillows and bubble packaging. Insulated shipping containers will benefit from temperature-sensitive pharmaceutical handling requirements and storage temperature requirements. This study analyzes the \$5.1 billion US protective packaging industry, with forecasts for 2018 and 2023 by function, market and product. The study also evaluates company market share and profiles industry players.

#3142 March 2014..... \$5300

Produce Packaging

US demand for produce packaging is forecast to increase 3.3 percent per year to \$5.7 billion in 2017. Corrugated boxes will remain the most common type, while plastic containers will grow the fastest. Fruit applications will lead gains based on more fresh-cut fruit marketed for convenience and as a healthy snack option. This study analyzes the \$4.8 billion US produce packaging industry, with forecasts for 2017 and 2022 by produce packaging type, application and end user. The study also evaluates company market share and profiles industry players.

#3097 November 2013 \$5100

Corrugated & Paperboard Boxes

World corrugated box demand will rise 4.2 percent yearly to 234 billion square meters in 2017. The fastest growth will occur in developing areas, especially in the Asia/Pacific and Africa/Mideast regions. Food and beverages will remain the leading market while the nonfood nondurables segment will grow the fastest. This study analyzes the 190.7 billion square meter world box industry, with forecasts for 2017 and 2022 by raw material, market, world region and for 27 major countries. The study also evaluates company market share and profiles industry players.

#3042 July 2013 \$6100

Food Containers: Rigid & Flexible

US food container demand will rise 2.9 percent per year to \$27.6 billion in 2017. The plastic container, and bag and pouch segments will grow the fastest based on further inroads into paperboard, metal, and glass containers. The best market prospects include snack foods, sauces and condiments, dairy products, and meat and related products. This study analyzes the \$24 billion US rigid and flexible food container industry, with forecasts for 2017 and 2022 by type and market. The study also evaluates company market share and profiles industry players.

#3013 April 2013 \$5300

Plastic Film

Demand for plastic film in the US is forecast to grow 1.8 percent annually to 15.9 billion pounds in 2016. LLDPE will remain the leading film. Among the low volume plastic resins used in film, degradable plastics will lead gains, followed by cellophane and ethylene vinyl alcohol. Packaging will remain the dominant market, but will be outpaced by nonpackaging applications. This study analyzes the 14.5 billion pound US plastic film industry, with forecasts for 2016 and 2021 by type and market. The study also evaluates company market share and profiles industry players.

#2955 December 2012 \$5100

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