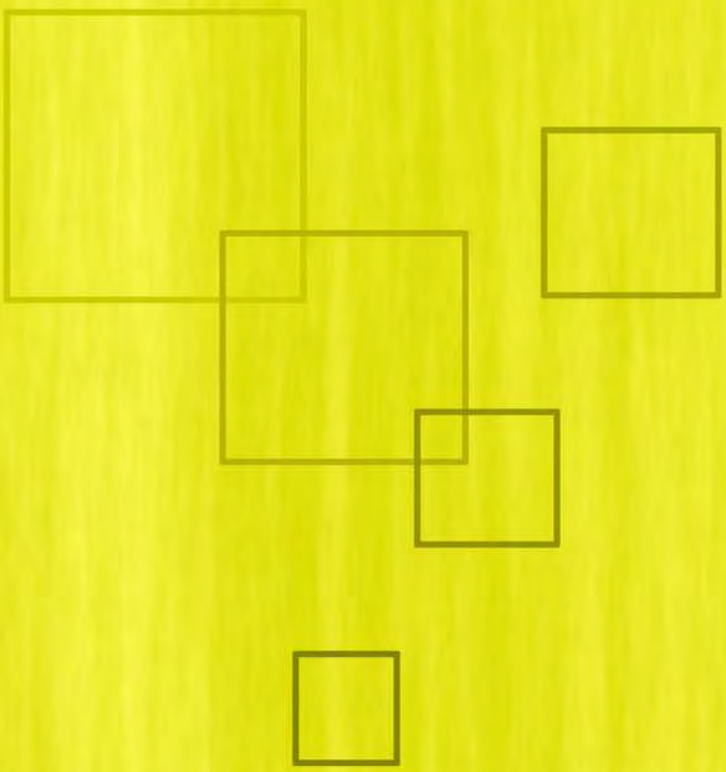
Market Report:

World Inorganic Filler Market

Markets, Products, Applications, Innovations, Chances & risks, Competition, Prospects to 2015



Acmite Market Intelligence

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Table of Contents

Volume I

Volume II

Note:

EUR 1 = US$1.4

Sample Reading

3.1.2 Inorganic filler market by application

Fillers are used in a large variety of application areas, with plastics, paper, paints & coatings, rubber and adhesives & sealants as five largest application markets for filler suppliers. These markets combined account for more than 80 percent of the total inorganic filler consumption.

In term of value

Plastics (thermoplastics and thermosets) is traditionally the most important application market, accounting for 26% of the total inorganic filler demand. It will remain the largest one in the near future, yet presents below average growth rate. Estimated at US$3.5 billion in 2008, the demand is forecast to reach US$3.7 billion at 2.8% p.a. by 2010 and to exceed US$4 billion at 4.8% p.a. by 2015.

Paper is another major application market of fillers, demonstrating faster than average growth. Many minerals are processed for both paper coating and paper filling by different grade. With paper coating excluded, the estimated market size of filler used in papermaking was roughly US$3 billion in 2008, accounting for 22% of the global inorganic filler consumption. The total inorganic filler market in paper is expected to reach US$3.5 billion at 3.3% p.a. by 2010 and to reach US$4.1 billion at 5.3% by 2015.

Paints & coatings is an application market of inorganic filler severely hit by current economic crisis. Formulators increasingly use fillers to cut costs or improve performance with functional fillers so as the keep profit margin in the hard time. In term of value, paints & coatings accounts for roughly 12% of the total inorganic filler demand, with consumption estimated at US$1.6 billion in 2008. The demand is projected to reach US$1.87 billion by 2012 and to increase to US$2.13 billion by 2015. (Vol. I, P.26)

3.2 Market trends and chances

Increasing use of functional fillers

There is a trend in fillers, particularly in polymer fillers, that fillers are not used to reduce cost but to achieve a specific function or positive benefit. Fillers are increasingly used for improved processing, density control, optical effects, thermal conductivity, control of thermal expansion, electrical properties, magnetic properties, flame retardancy and improved mechanical properties, such as hardness and tear resistance.

Mineral producers have focused on increasing value and functionality by tailoring mineral properties through controlling particle size, distribution, treating particle surfaces, etc.

Higher filler loadings to reduce costs

The ultimate goal of higher filler loading levels is to reduce cost. Technologies ranging from wet end additives to filler and composites are being pursued to achieve these higher filling targets.

In the papermaking industry, producers are trying to maximize filler levels such as kaolin, GCC and PCC to reduce the use of pulp and pigments which are more expensive.

Increasing resin prices cut profit margins of processors. Loading level of fillers, e.g. calcium carbonate, increased from 10% to 15% and 20%. Loading level reached 25% in some application such as bag films and even 30% in some non-bag applications where quality requirements are not so strict.

Loading level will continue to increase driven by technology development and need for cost reduction.

Increasing use of nanofillers

An important innovation in recent years is nano-sized filler (i.e. 5-20nm), and production of the nano-filler composite. The use of nanocomposites, such as nanoclays and nanotalcs, is increasing… … (Vol.I P.38)

4.6.1 Products, properties and uses

Aluminium trihydroxide (ATH) is also known as hydrated alumina, alumina hydrate, alumina trihydrate and trihydrated alumina.
Its chemical formula is $Al(OH)_3$ or $Al_2O_33H_2O$

Aluminum hydroxide is the most consumable and applicable inorganic flame retardant. ATH is more often taken as a flame retardant filler than as an flame retardant additive in the sense that it is often less expensive than the filled material it displaces (at least on a weight basis), and by comparison with reactive flame retardants it needs to be used at high loadings.

Filler grade production of aluminum hydroxide is a separate from the production of the metallurgical grade and yields a pure aluminium trihydroxide, while the metallurgical grade of aluminum trihydroxide is produced in the first stage.

Properties

Aluminum trihydroxide has two important properties which make it a very popular filler

- flame retarding abilities. ATH acts by endothermic dehydration, simultaneously absorbing heat energy: maximum processing temperature is about 200℃. On heating to 200℃, hydrated alumina decomposes into 66% alumina and 34% water.
- low absorption of UV

Other major properties include:

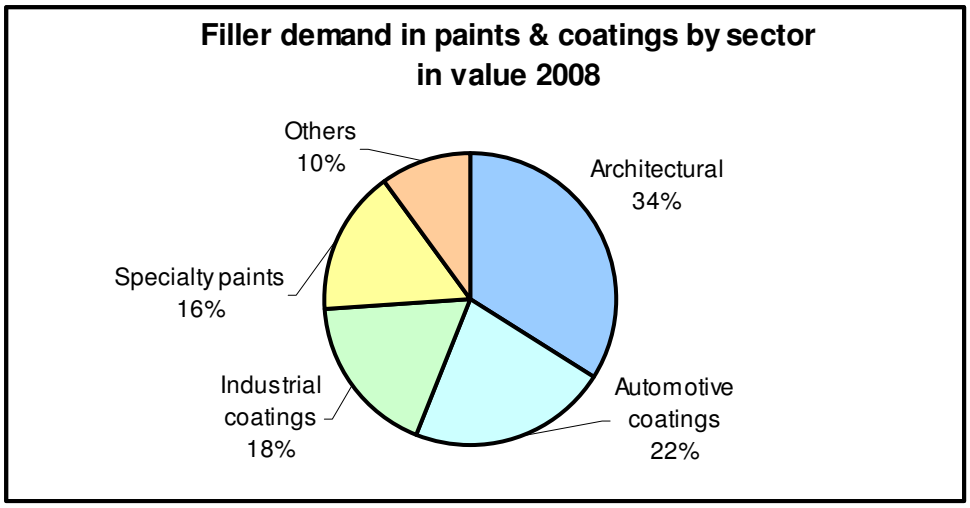
- smoke suppression
- chemical stability
- optical translucency

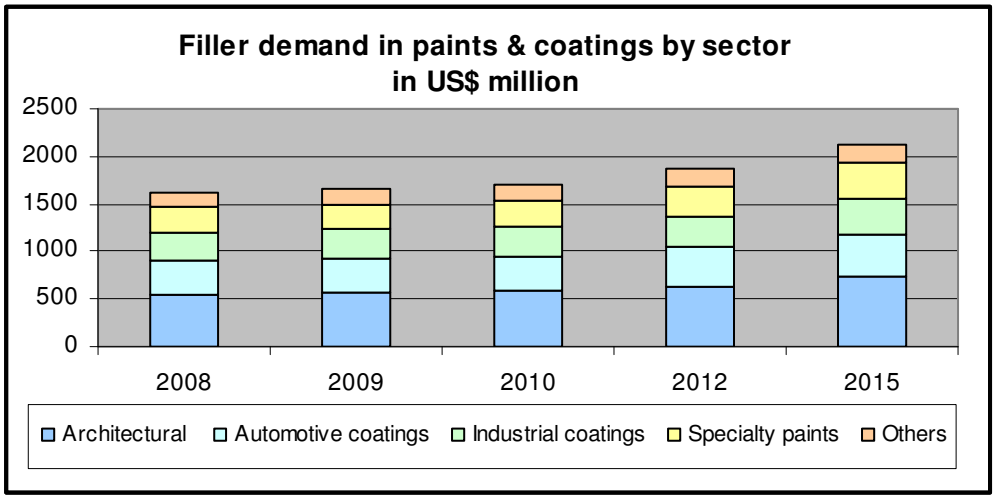
…… (Vol.I P.143)

5.3.2.1 Filler demand in paints & coatings by sector

Filler demand in paints & coatings by sector in US$ million

	2008	2009	2010	AAGR	2012	2015	AAGR
Architectural	553	567	582	2.5%	636	725	4.5%
Automotive coatings	358	365	373	2.0%	405	458	4.2%
Industrial coatings	293	300	307	2.3%	334	379	4.3%
Specialty paints	260	268	277	3.0%	308	361	5.5%
Others	163	167	171	2.5%	185	208	4.0%
Total	1626	1668	1710	2.6%	1868	2131	4.5%





(Vol. I P.187)

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Year of foundation: 1994
Number of employees: 3,700
Revenue 2007: US$2.46 billion

Company profile

Albemarle is a leading global producer of specialty chemicals for consumer electronics, pharmaceuticals, agricultural, automotive and industrial products, and construction and packaging materials. The company has developed industry-leading positions in a number of end markets, including bromine and mineral-based flame retardants, aluminium alkyl catalysts and metallocene co-catalysts for polyolefins, bromine and bulk ibuprofen.

The company operates four business units: Polymer additives, Catalysts, Fine chemicals, and other industry specialties

The company's Polymer Additives business supplies flame retardants, curing agents, antioxidants and stabilizers.

Its Other Industry Specialties business supplies

- Paper sizes & fillers, which offers a variety of chemical specialties for the paper industry, from paper sizes to pigments, fillers and processing aids…

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C4692	**World Inorganic Filler Market, Volume II**	Ca. 400	☐ **EUR 590**	☐ **EUR 690**
C4690	**World Inorganic Filler Market, Total(Volume I + II)**	Ca. 600	☐ **EUR 1590**	☐ **EUR 1790**
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