

Alkyd-Polyester Surface Coatings

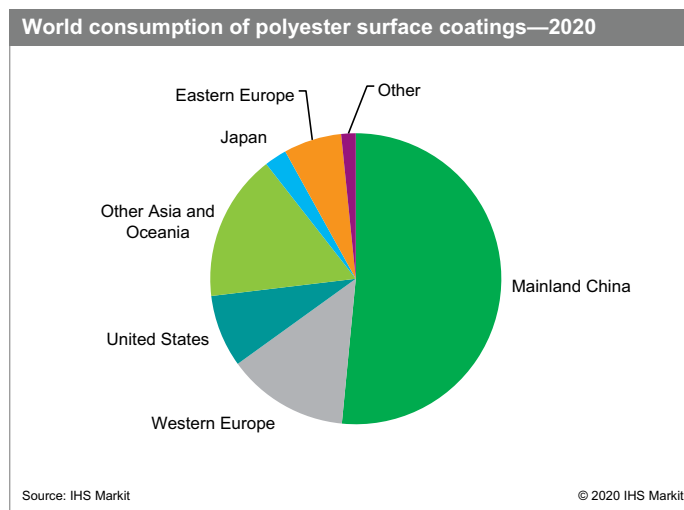
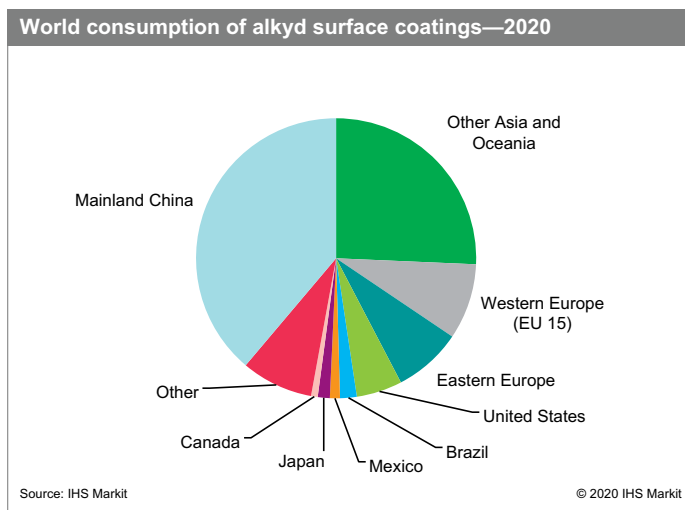
17 July 2020

Abstract

Alkyd surface coatings continue to be one of the most highly consumed types of coatings used in the world, despite the increasing use of other film formers. The success of alkyd resin systems is a result of their relatively low cost, versatility and long familiarity with users. They can be tailored to meet a variety of end-use requirements through the choice and ratio of reactants and/or modifiers. Alkyds are used extensively in architectural coatings, product finishes and special-purpose coatings. Promoters of alkyd resins note that they are partly made from fatty acids or oils derived from renewable sources, making them greener than most competitive coating resins. Alkyds were the first synthetic coatings binder used in commercial practice, first used in large quantities in the 1930s.

Polyesters, also referred to as oil-free alkyds, are made in the same equipment as alkyds and use many of the same raw materials. Polyesters are used almost exclusively in industrial baking finishes.

The following pie chart shows world consumption of alkyd/polyester surface coatings:



Despite the continuing decline in the market in North America, Western Europe, and Japan, alkyds remain one of the leading types of coatings used in the industrial marketplace.

In North America, Western Europe, and Japan, consumption of alkyds has diminished over the last 40 years. In the architectural or decorative coatings market, solventborne alkyds have been steadily replaced with waterborne emulsions because of their lower odor, lower solvent content, easy clean-up, and fast drying properties. However, in some applications, these emulsions do not display the same degree of performance in leveling, adhesion, gloss, and certain resistance properties. These drawbacks have stalled the conversion from most solventborne gloss trim, wood stains, and light maintenance coatings, so solventborne alkyds remain a sizable factor in the coatings industry. However, restrictions

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on the use of paints are becoming tighter in certain parts of the United States and in Europe, which will forbid the use of conventional low-solids (i.e., high-solvent-containing) solventborne coatings.

As a result, the types of resins used in these regions in certain applications will change significantly. Most use of polyester coatings in the United States is in metal furniture, construction, appliances, and transportation, businesses that are mature and grow at GDP-like rates. Growth is expected to be 3.0% annually during 2020–15 as the United States recovers from the COVID-19 crisis.

Producers continue to develop new and improved systems for high-solids and waterborne formulations to meet increasingly stringent air pollution regulations. In recent years, producers of alkyd resins have developed waterborne latex resins that meet the low VOC levels required by recently enacted legislation in certain parts of the United States and Western Europe. Generally, though, these environmentally friendly systems are considerably more expensive than the conventional systems, and have some technical drawbacks. Polyesters are offered in high-solids, waterborne, and powder coatings, which are more environmentally acceptable.

Mainland China is the fastest-growing region in the world, and some multinational producers of resins and coatings have established production facilities here. In particular, the use of alkyd coatings for construction applications and of polyester-epoxy hybrid powder coatings on metal parts has grown rapidly.

Global consumption of alkyd coating resins and alkyd coatings is forecast to grow at an average annual rate of about 3% during 2020–25. Average annual growth in the consumption of polyester coating resins and polyester coatings will be 5% during 2020–25.

For more detailed information, see the table of contents, shown below.

IHS Markit's Chemical Economics Handbook – *Alkyd-Polyester Surface Coatings* is the comprehensive and trusted guide for anyone seeking information on this industry. This latest report details global and regional information, including



Global summary;
regional coverage



Producers with
annual capacities
and plant sites



Production figures
and trends



Consumption and
forecasts by end use
application



Manufacturing
processes and
environmental issues



Trade – imports
and exports

Key benefits

IHS Markit's Chemical Economics Handbook – *Alkyd-Polyester Surface Coatings* has been compiled using primary interviews with key suppliers and organizations, and leading representatives from the industry in combination with IHS Markit's unparalleled access to upstream and downstream market intelligence and expert insights into industry dynamics, trade, and economics.

This report can help you

- Identify trends and driving forces influencing chemical markets
- Forecast and plan for future demand
- Understand the impact of competing materials
- Identify and evaluate potential customers and competitors

- Evaluate producers
- Track changing prices and trade movements
- Analyze the impact of feedstocks, regulations, and other factors on chemical profitability

Contents

Executive summary	7
Summary	8
Introduction	12
Raw materials	13
Alkyds	13
– Polybasic acids and anhydrides	13
– Phthalic anhydride	13
– Isophthalic acid	13
– Maleic anhydride	13
– Terephthalic acid	13
– Other	14
– Polyhydric alcohols	14
– Pentaerythritol	14
– Glycerin	14
– Other	14
– Monobasic acids	15
– Vegetable oils	15
– Soybean oil	16
– Linseed oil	16
– Castor oil	16
– Other	16
– Tall oil fatty acids	16
– Marine oils	17
– Synthetic fatty acids	17
– Alkyds and polyesters from renewable resources	18
– Modifiers	19
– Chemically modified alkyds	19
– Isocyanates	19
– Styrene and vinyl toluene	19
– Acrylic monomers	19
– Rosin and rosin esters	19
– Benzoic acid and derivatives	19
– Blends of alkyds with other resins	20
– Chlorinated rubber	20
– Nitrocellulose	20
– Phenolics	20
– Silicone	20
– Polyamide (nonnylon type)	20
– Other	20
– Sample resin formulations	21

Polyesters	23
Manufacturing processes	25
Coating formulation	26
– Pigments	26
– Solvents	26
– Additives	27
– Driers	27
– Other	28
Environmentally acceptable formulations	28
– Solventborne alkyds using exempt solvents	28
– High-solids alkyds	29
– Waterborne alkyds	30
– Modifying alkyds	32
– High-solids polyesters	32
– Waterborne polyesters	32
– Powder coatings	33
Environmental issues	34
United States	34
Western Europe	36
Japan	37
Supply and demand by region	38
United States	38
– Producing companies	38
– Production	41
– Consumption	42
– Architectural coatings	44
– Exterior	45
– Interior	46
– Product finishes—OEM	47
– Metal furniture and fixtures	48
– Appliances	49
– Sheet, strip, and coil	49
– Machinery and equipment	50
– Transportation	51
– Wood furniture and fixtures	52
– Electrical insulation (varnishes and magnet wire enamels)	54
– Containers	54
– Wood and composition flat stock	55
– Other	56
– Special-purpose coatings	56
– Industrial maintenance	56
– Aerosols	57
– Traffic paints	58

– Automotive refinishing	58
– Price	59
– Resins	59
– Coatings	59
– Trade	60
Canada	61
Mexico	61
South America	62
Europe	65
– Producing companies	65
– Production	71
– Consumption	73
– Architectural coatings	75
– Product finishes—OEM	77
– Special-purpose coatings	81
– Price	81
– Resins	81
– Coatings	83
– Trade	85
Eastern Europe	86
– Producing Companies	86
– Production	87
– Consumption	87
– Architectural coatings	87
– OEM Product Finishes	87
– Trade	88
Middle East and Africa	88
– Producing companies	88
– Consumption	90
– Architectural coatings	90
– Product finishes	91
– Trade	92
Mainland China	92
– Producing companies	92
– Production	95
– Consumption	95
– Price	96
– Trade	97
Japan	98
– Producing companies	98
– Salient statistics	99
– Consumption	100
– Price	103

– Trade	103
Other Asia and Oceania	104
– Producing companies	104
– Salient statistics	107
– South Korea	111
– Taiwan	113
– Indian Subcontinent, Southeast Asia, and Oceania	114
Additional resources	116
Revisions	117

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