Polyether Polyols for Urethanes

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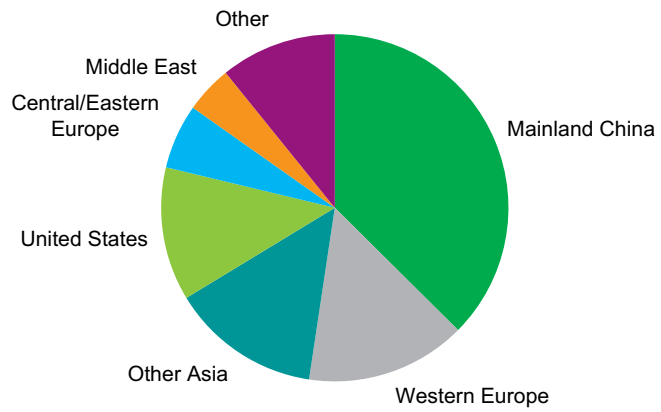
Abstract

Polyurethanes are based on the exothermic reaction of polyisocyanates and polyol molecules. Many different types of polyurethane materials are produced from a few types of isocyanates and a range of polyols with different functionality and molecular weights. Some of the diversity of functionality depends on whether the polyols are based on polyethers or polyesters. Most polyether polyols are produced for polyurethane applications; however, other end uses range from synthetic lubricants and functional fluids to surface-active agents. This report focuses on urethane applications.

The following pie chart shows world consumption of polyether polyols for urethanes in 2021:

World consumption of polyether polyols for urethanes—2021



Note: Other Asia includes the Indian Subcontinent, Japan, South Korea, Taiwan, and Southeast Asia.
Source: IHS Markit

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The polyether polyol business is global and fairly concentrated, with the top-four producers accounting for more than 40% of global capacity. Dow Chemical is the largest worldwide producer of polyether polyols, with the largest number of both plants and capacities in the greatest number of countries. Shell has become the second-largest producer, following the expansion of the joint venture plant in mainland China in 2021. Covestro (formerly operating as Bayer MaterialScience) is the third-largest producer, with plants in the United States, Europe, Latin America, and Asia. BASF rounds out the top four, with plants located in the United States and Western Europe, and smaller plants in Latin America and South Korea.

Contacts

IHS Markit Customer Care · CustomerCare@ihsmarkit.com

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Consumption of polyether polyols is highly influenced by the polyurethane foam markets. Flexible foams are used in automotive seating, furniture, and bedding, while rigid foams are used in construction and appliances. Nonfoam uses include urethane adhesives and sealants and urethane surface coatings. With the impact of the COVID-19 pandemic in 2020, the global economy and major downstream industries (automotive, construction, manufacturing) were severely impacted, and the global polyether polyols market dropped. As the pandemic started receding in 2021, the polyurethane and polyols markets have also started recovering.

Consumption of polyether polyols in global markets will grow at an average annual rate of around 4.0% during 2021-26; the greatest growth will take place in Asia (excluding Japan, South Korea, and Taiwan). Mainland China and India will show high growth rates for 2021–26.

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

IHS Markit's Chemical Economics Handbook – ***Polyether Polyols*** 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 – ***Polyurethane Foams*** has been compiled using primary interviews with key suppliers, organizations and leading representatives from the industry in combination with IHS Markit's unparalleled access to upstream and downstream market intelligence, 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

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Contents

Executive summary **7**
Summary **9**
Americas 11
Europe, Middle East, and Africa 12
Asia and Oceania 12
Macroeconomic environment **13**
Industry structure and dynamics **14**
Introduction **17**
Manufacturing processes **19**
Polyols based on propylene oxide 19
– Polypropylene glycol (PPG) 19
– Polyol adducts 20
– Double-metal cyanide catalysis 20
– Block copolymers 21
– Natural oil polyols (NOPs) 21
Modified polyols based on propylene oxide 22
– Polymer polyols 22
– Polyurea polyols 22
Environmental issues **23**
Supply and demand by region **24**
North America 24
United States 24
– Producing companies 24
– Production 26
– Consumption 28
– Flexible foam 30
– Transportation 32
– Bedding 32
– Furniture 33
– Carpet underlay 33
– Packaging 34
– Textile 34
– Other 34
– Rigid foam 34
– Construction 35
– Appliances 36
– Packaging 37
– Industrial insulation 37
– Transportation 37
– Other 38

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– Nonfoam 38
– Adhesives and sealants 39
– Cast elastomers 39
– Thermoplastic elastomers 40
– Surface coatings 41
– RIM-processed polyurethanes 41
– Binders and fillers 42
– Other 42
– Price 43
– Trade 44
Canada and Mexico 45
– Reported consumption 45
– Canada 46
– Producing companies 46
– Salient statistics 46
– Consumption 46
– Mexico 47
– Producing companies 47
– Salient statistics 48
– Consumption 48
Central and South America 49
– Producing companies 49
– Salient statistics 50
– Consumption 52
Western Europe 52
– Producing companies 52
– Salient statistics 56
– Consumption 57
– Flexible and semirigid foam 59
– Rigid foam 59
– Nonfoam/CASE 60
– Price 60
– Trade 61
Central and Eastern Europe 62
– Producing companies 62
– Salient statistics 64
– Consumption 65
– Price 66
– Trade 66
Middle East 66
– Producing companies 66
– Production 67
– Consumption 67

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– Price 68
Africa 69
Mainland China 69
– Producing companies 69
– Salient statistics 72
– Consumption 73
– Flexible foam 74
– Rigid foam 74
– Nonfoam/CASE 75
– Price 75
– Trade 75
India 76
– Producing companies 76
– Salient statistics 77
– Consumption 78
– Trade 78
Japan 79
– Producing companies 79
– Salient statistics 80
– Consumption 81
– Flexible foam 82
– Rigid foam 83
– Nonfoam/CASE applications 83
– Price 83
– Trade 83
South Korea 84
– Producing companies 84
– Salient statistics 85
– Consumption 85
– Price 87
– Trade 87
Taiwan 88
– Producing companies 88
– Salient statistics 88
– Consumption 89
– Trade 89
Other Asia 90
– Producing companies 90
– Salient statistics 91
– Consumption 94
Oceania 97
– Producing companies 97
– Salient statistics 97

Confidential. © 2022 IHS Markit®. All rights reserved.

– Consumption 98
Additional resources 100
Revisions 102
Data Workbook 103
Notice 104

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Customer Care
CustomerCare@ihsmarkit.com
Asia and the Pacific Rim
Japan: +81 3 6262 1887
Asia Pacific: +604 291 3600
Europe, Middle East, and Africa: +44 (0) 1344 328 300
Americas: +1 800 447 2273

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