



Flexographic Inks: *Technologies and Global Markets*

November 2017

Sinha G. Gaurav

Report Code: AVM145A

Table of Contents

- Chapter 1: Introduction 1**
 - Study Goals and Objectives..... 1
 - Reasons for Doing the Study..... 1
 - Scope of Report..... 2
 - Research Methodology 2
 - Intended Audience..... 3
 - Information Sources..... 3
 - Geographic Breakdown..... 3
 - Analyst's Credentials..... 8
 - Related BCC Research Reports..... 8

- Chapter 2: Summary and Highlights..... 10**

- Chapter 3: Market and Technology Background 14**
 - Evolution of the Printing Industry..... 14
 - Flexographic Printing and Flexographic Inks..... 15
 - Key Developments in the Field of Flexographic Ink..... 16
 - Flexographic Printing Process 18
 - Company Market Share, 2016 19

- Chapter 4: Market Breakdown by Resin Type 22**
 - Introduction 22
 - Market Dynamics 23
 - Drivers 23
 - Restraints..... 24
 - Nitrocellulose..... 24
 - Polyamide 27
 - Polyurethane..... 31
 - Acrylic..... 35
 - Other Resins..... 39

- Chapter 5: Market Breakdown by Technology 43**
 - Introduction 43
 - Market Dynamics 43
 - Drivers 43
 - Restraints..... 44
 - Water-based Technology 45
 - Solvent-based Technology 49
 - UV-based Technology 53

- Chapter 6: Market Breakdown by End-use Industry..... 58**
 - Introduction 58
 - Market Dynamics 59
 - Drivers 59
 - Restraints..... 59
 - Flexible Packaging 59
 - Rigid Packaging 63
 - Tags and Labels 67

Paper Printing	70
Chapter 7: Market Breakdown by Region	76
Introduction	76
North America.....	77
Overview	77
Europe.....	81
Overview	81
Asia-Pacific	86
Overview	86
Asia-Pacific Flexographic Inks Market, by End-use Industry	89
Rest of the World	91
Overview	91
RoW Flexographic Inks Market, by Technology	92
RoW Flexographic Inks Market, by Technology	93
RoW Flexographic Inks Market, by End-use Industry.....	94
RoW Flexographic Inks Market, by Country.....	95
Chapter 8: Patent Review/ New Developments	98
Patent Review by Country	98
Important Flexographic Inks Patents	99
Recording Sheet with Improved Print Density	99
Process for the Deinking of Coated Paper or Paperboard	100
Solvent-Based Flexible Packaging Ink Composition for High Temperature and Pressure	101
Cosmetic Products Application	101
Process for the Deinking of Coated Paper or Paperboard	102
Solid Ink Mask Removal Process	103
Method for Creating Tamper-Evident Labels.....	103
Print Quality on Thin Coatings of Cellulose Nanocrystals	104
Water-Based Inks Comprising Lignin.....	105
Merchandising, Shipping and Display Container.....	105
Liquid Arylbenzoyl Benzoic Acid Ester Derivatives for Energy Curable Compositions.....	106
Printable Radiation Curable Barrier Coatings.....	107
Printing Ink with Nitrated Lignin Ester as Binder Component	107
Printable Coating Systems for Flexible Magnetic Sheets	108
Energy Curable Lithographic Inks Containing Lactic Acid Resins	108
Ultraviolet Printing with Luminosity Control	109
Anisotropic Conductive Adhesive.....	110
Temperature Activated Changes to Light Absorption and Emission Characteristics for Security Articles	110
Radiation Curable Composition Comprising Inert Resins.....	111
Flexographic Printing Process with Wet on Wet Capability.....	112
Phthalocyanine Pigment Composition and Method for Producing the Same, and Ink	113
Chapter 9: Company Profiles	115
About BCC Research.....	142
About BCC Research.....	143
BCC Membership	143
BCC Custom Research	143

List of Tables

Summary Table Global Market for Flexographic Inks, by End-use Industry, Through 2022 (\$ Millions) ..	11
Table 1 Water-based Ink Formulations for Printing on Nonabsorbent and Absorbent Substrates	16
Table 2 Solvent-based Flexo and Gravure Inks Formulated by Substance	17
Table 3 Formulation of UV Inks.....	18
Table 4 Global Market for Nitrocellulose, by Technology, Through 2022 (\$ Millions)	24
Table 5 Global Market for Nitrocellulose, by End-use Industry, Through 2022 (\$ Millions)	25
Table 6 Global Market for Nitrocellulose, by Region, Through 2022 (\$ Millions)	26
Table 7 Global Market for Polyamide, by Technology, Through 2022 (\$ Millions)	28
Table 8 Global Market for Polyamides, by End-use Industry, Through 2022 (\$ Millions)	29
Table 9 Global Market for Polyamides, by Region, Through 2022 (\$ Millions)	30
Table 10 Global Market for Polyurethane, by Technology, Through 2022 (\$ Millions).....	31
Table 11 Global Market for Polyurethane, by End-use Industry, Through 2022 (\$ Millions).....	33
Table 12 Global Market for Polyurethane, by Region, Through 2022 (\$ Millions)	34
Table 13 Global Market for Acrylic, by Technology, Through 2022 (\$ Millions).....	35
Table 14 Global Market for Acrylic, by End-use Industry, Through 2022 (\$ Millions)	37
Table 15 Global Market for Acrylic, by Region, Through 2022 (\$ Millions)	38
Table 16 Global Market for Other Resins, by Technology, Through 2022 (\$ Millions).....	39
Table 17 Global Market for Other Resins, by End-use Industry, Through 2022 (\$ Millions)	40
Table 18 Global Market for Other Resins, by Region, Through 2022 (\$ Millions)	41
Table 19 Global Market for Water-based Flexographic Inks, by Resin Type, Through 2022 (\$ Millions).....	45
Table 20 Global Market for Water-based Flexographic Inks, by End-user Industry, Through 2022 (\$ Millions)	46
Table 21 Global Market for Water-based Flexographic Inks, by Region, Through 2022 (\$ Millions)	48
Table 22 Global Market for Solvent-based Flexographic Inks, by Resin Type, Through 2022 (\$ Millions)	49
Table 23 Global Market for Solvent-based Flexographic Inks, by End-use Industry, Through 2022 (\$ Millions)	51
Table 24 Global Market for Solvent-based Flexographic Inks, by Region, Through 2022 (\$ Millions)	52
Table 25 Global Market for UV-based Flexographic Inks, by Resin Type, Through 2022 (\$ Millions).....	53
Table 26 Global Market for UV-based Flexographic Inks, by End-user Industry, Through 2022 (\$ Millions)	54
Table 27 Global Market for UV-based Flexographic Inks, by Region, Through 2022 (\$ Millions)	55
Table 28 Global Market for Flexographic Inks for Flexible Packaging, by Resin Type, Through 2022 (\$ Millions)	60
Table 29 Global Market for Flexographic Inks in Flexible Packaging, by Technology, Through 2022 (\$ Millions)	61
Table 30 Global Market for Flexographic Inks for Flexible Packaging, by Region, Through 2022 (\$ Millions)	62
Table 31 Global Market for Flexographic Inks for Rigid Packaging, by Resin Type, Through 2022 (\$ Millions)	63
Table 32 Global Market for Flexographic Inks for Rigid Packaging, by Technology, Through 2022 (\$ Millions)	65
Table 33 Global Market for Flexographic Inks for Rigid Packaging, by Region, Through 2022 (\$ Millions)	66
Table 34 Global Market for Flexographic Inks for Tags and Labels, by Resin Type, Through 2022 (\$ Millions)	67

Table 35 Global Market for Flexographic Inks for Tags and Labels, by Technology, Through 2022 (\$ Millions)	68
Table 36 Global Market for Flexographic Inks for Tags and Labels, by Region, Through 2022 (\$ Millions)	69
Table 37 Global Market for Flexographic Inks for Paper Printing, by Resin Type, Through 2022 (\$ Millions)	71
Table 38 Global Market for Flexographic Inks for Paper Printing, by Technology, Through 2022 (\$ Millions)	72
Table 39 Global Market for Flexographic Inks for Paper Printing, by Region, Through 2022 (\$ Millions)	73
Table 40 North American Market for Flexographic Inks, by Resin Type, Through 2022 (\$ Millions)	77
Table 41 North American Market for Flexographic Inks, by Technology, Through 2022 (\$ Millions)	78
Table 42 North American Market for Flexographic Inks, by End-use Industry, Through 2022 (\$ Millions)	79
Table 43 North American Market for Flexographic Inks, by Country, Through 2022 (\$ Millions)	80
Table 44 European Market for Flexographic Inks, by Resin Type, Through 2022 (\$ Millions)	82
Table 45 European Market for Flexographic Inks, by Technology, Through 2022 (\$ Millions)	83
Table 46 European Market for Flexographic Inks, by End-use Industry, Through 2022 (\$ Millions)	84
Table 47 European Market for Flexographic Inks, by Country, Through 2022 (\$ Millions)	85
Table 48 Asia-Pacific Market for Flexographic Inks, by Resin Type, Through 2022 (\$ Millions)	87
Table 49 Asia-Pacific Market for Flexographic Inks, by Technology, Through 2022 (\$ Millions)	88
Table 50 Asia-Pacific Market for Flexographic Inks, by End-use Industry, Through 2022 (\$ Millions)	89
Table 51 Asia-Pacific Market for Flexographic Inks, by Country, Through 2022 (\$ Millions)	90
Table 52 RoW Market for Flexographic Inks, by Resin Type, Through 2022 (\$ Millions)	92
Table 53 RoW Market for Flexographic Inks, by Technology, Through 2022 (\$ Millions)	94
Table 54 RoW Market for Flexographic Inks, by End-use Industry, Through 2022 (\$ Millions)	95
Table 55 RoW Market for Flexographic Inks, by Country, Through 2022 (\$ Millions)	96
Table 56 Altana Financials, Through 2016 (\$ Millions)	116
Table 57 DIC Corp. Financials, Through 2016 (\$ Millions)	123
Table 58 DuPont Financials, Through 2016 (\$ Millions)	125
Table 59 Sakata Financials, Through 2016 (\$ Millions)	133
Table 60 T&K Toka Financials, Through 2016 (\$ Millions)	137
Table 61 Tokyo Printing Financials, Through 2016 (\$ Millions)	138
Table 62 Toyo Company Financials, Through 2016 (\$ Millions)	139

List of Figures

Summary Figure Global Market for Flexographic Inks, by End-use Industry, 2016-2022 (\$ Millions).....	11
Figure 1 Global Market Share for Flexographic Inks by Company, 2016 (%).....	19
Figure 2 Global Market for Flexographic Inks, by Resin Type.....	22
Figure 3 Global Market for Nitrocellulose, by Technology, 2016-2022 (\$ Millions).....	25
Figure 4 Global Market for Nitrocellulose, by End-use Industry, 2016-2022 (\$ Millions).....	26
Figure 5 Global Market for Nitrocellulose, by Region, 2016-2022 (\$ Millions).....	27
Figure 6 Global Market for Polyamide, by Technology, 2016-2022 (\$ Millions).....	28
Figure 7 Global Market for Polyamides, by End-use Industry, 2016-2022 (\$ Millions).....	29
Figure 8 Global Market for Polyamides, by Region, 2016-2022 (\$ Millions).....	30
Figure 9 Global Market for Polyurethane, by Technology, 2016- 2022 (\$ Millions).....	32
Figure 10 Global Market for Polyurethane, by End-use Industry, 2016-2022 (\$ Millions).....	33
Figure 11 Global Market for Polyurethane, by Region, 2016- 2022 (\$ Millions).....	34
Figure 12 Global Market for Acrylic, by Technology, 2016-2022 (\$ Millions).....	36
Figure 13 Global Market for Acrylic, by End-use Industry, 2016-2022 (\$ Millions).....	37
Figure 14 Global Market for Acrylic, by Region, 2016-2022 (\$ Millions).....	38
Figure 15 Global Market for Other Resins, by Technology, 2016-2022 (\$ Millions).....	39
Figure 16 Global Market for Other Resins, by End-use Industry, 2016-2022 (\$ Millions).....	40
Figure 17 Global Market for Other Resins, by Region, 2016-2022 (\$ Millions).....	41
Figure 18 Global Market for Water-based Flexographic Inks, by Resin Type, 2016-2022 (\$ Millions).....	46
Figure 19 Global Market for Water-based Flexographic Inks, by End-user Industry, 2016-2022 (\$ Millions).....	47
Figure 20 Global Market for Water-based Flexographic Inks, by Region, 2016-2022 (\$ Millions).....	48
Figure 21 Global Market for Solvent-based Flexographic Inks, by Resin Type, 2016-2022 (\$ Millions)...	50
Figure 22 Global Market for Solvent-based Flexographic Inks, by End-use Industry, 2016-2022 (\$ Millions).....	51
Figure 23 Global Market for Solvent-based Flexographic Inks, by Region, 2016-2022 (\$ Millions).....	52
Figure 24 Global Market for UV-based Flexographic Inks, by Resin Type, 2016-2022 (\$ Millions).....	54
Figure 25 Global Market for UV-based Flexographic Inks, by End-user Industry, 2016-2022 (\$ Millions).....	55
Figure 26 Global Market for UV-based Flexographic Inks, by Region, 2016-2022 (\$ Millions).....	56
Figure 27 Global Market for Flexographic Inks, by End-use Industry.....	58
Figure 28 Global Market for Flexographic Inks for Flexible Packaging, by Resin Type, 2016-2022 (\$ Millions).....	60
Figure 29 Global Market for Flexographic Inks for Flexible Packaging, by Technology, 2016-2022 (\$ Millions).....	61
Figure 30 Global Market for Flexographic Inks for Flexible Packaging, by Region, 2016-2022 (\$ Millions).....	62
Figure 31 Global Market for Flexographic Inks for Rigid Packaging, by Resin Type, 2016-2022 (\$ Millions).....	64
Figure 32 Global Market for Flexographic Inks for Rigid Packaging, by Technology, 2016-2022 (\$ Millions).....	65
Figure 33 Global Market for Flexographic Inks for Rigid Packaging, by Region, 2016-2022 (\$ Millions) .	66
Figure 34 Global Market for Flexographic Inks for Tags and Labels, by Resin Type, 2016-2022 (\$ Millions).....	68
Figure 35 Global Market for Flexographic Inks for Tags and Labels, by Technology, 2016-2022 (\$ Millions).....	69
Figure 36 Global Market for Flexographic Inks for Tags and Labels, by Region, 2016-2022 (\$ Millions) .	70

Figure 37 Global Market for Flexographic Inks for Paper Printing, by Resin Type, 2016-2022 (\$ Millions)	71
Figure 38 Global Market for Flexographic Inks for Paper Printing, by Technology, 2016-2022 (\$ Millions)	72
Figure 39 Global Market for Flexographic Inks for Paper Printing, by Region, 2016-2022 (\$ Millions) ...	73
Figure 40 Global Market for Flexographic Inks, By Region	76
Figure 41 North American Market for Flexographic Inks, by Resin Type, 2016-2022 (\$ Millions)	78
Figure 42 North American Market for Flexographic Inks, by Technology, 2016-2022 (\$ Millions)	79
Figure 43 North American Market for Flexographic Inks, by End-use Industry, 2016-2022 (\$ Millions)	80
Figure 44 North American Market for Flexographic Inks, by Country, 2016-2022 (\$ Millions)	81
Figure 45 European Market for Flexographic Inks, by Resin Type, 2016-2022 (\$ Millions)	82
Figure 46 European Market for Flexographic Inks, by Technology, 2016-2022 (\$ Millions)	84
Figure 47 European Market for Flexographic Inks, by End-use Industry, 2016-2022 (\$ Millions)	85
Figure 48 European Market for Flexographic Inks, by Country, 2016-2022 (\$ Millions)	86
Figure 49 Asia-Pacific Market for Flexographic Inks, by Resin Type, 2016-2022 (\$ Millions)	87
Figure 50 Asia-Pacific Market for Flexographic Inks, by Technology, 2016-2022 (\$ Millions)	88
Figure 51 Asia-Pacific Market for Flexographic Inks, by End-use Industry, 2016-2022 (\$ Millions)	90
Figure 52 Asia-Pacific Market for Flexographic Inks, by Country, Through 2022 (\$ Millions)	91
Figure 53 RoW Market for Flexographic Inks, by Resin Type, 2016-2022 (\$ Millions)	93
Figure 54 RoW Market for Flexographic Inks, by Technology, 2016-2022 (\$ Millions)	94
Figure 55 RoW Market for Flexographic Inks, by End-use Industry, 2016-2022 (\$ Millions)	95
Figure 56 RoW Market for Flexographic Inks, by Country, 2016-2022 (\$ Millions)	96
Figure 57 Patent Share of Flexographic Inks, 2015–2017, by Region (%)	98
Figure 58 Patent Share for Flexographic Inks, by Year, 2013-2016 (%)	99



About BCC Research

About BCC Research

With our unparalleled 45-year history, BCC Research provides comprehensive analyses of global market sizing, forecasting and industry intelligence, covering markets where advances in science and technology are improving the quality, standard and sustainability of businesses, economies and lives.

BCC Membership

From market sizing and forecasts, to opportunity assessments and competitive analyses, our ever-expanding library gives you the data, insights and intelligence required to ensure your project is a success. Members benefit from ongoing, unlimited access to the category or collections of their choice, and most membership packages pay for themselves within two to three reports being accessed.

Did you buy this report? You may qualify to apply your purchase price towards a full membership. Call 866/31285-7215 or email info@bccresearch.com to request a demo.

BCC Custom Research

Our experts provide custom research projects to those working to identify new markets, introduce new products, validate existing market share, analyze competition and assess the potential for products to impact existing markets. With impressive academic credentials and broad and deep knowledge of global industrial markets, our independent analysts and consultants develop the facts, figures, analyses and assessments to inform the decisions that will move your company ahead. Confidential inquiries to: custom@bccresearch.com or 781/205-2429.

DISCLAIMER

The information developed in this report is intended to be as reliable as possible at the time of publication and is of a professional nature. This information does not constitute managerial, legal or accounting advice, nor should it be considered as a corporate policy guide, laboratory manual or an endorsement of any product, as much of the information is speculative in nature. BCC Research and the author assume no responsibility for any loss or damage that might result from reliance on the reported information or from its use.

ISBN: 1-62296-563-9
November 2017