

# Ionic Liquids: Environmentally Sustainable Solvent, Energy Storage and Separation Processes

<https://marketpublishers.com/r/IDB0025DD64EN.html>

Date: October 2021

Pages: 173

Price: US\$ 2,750.00 (Single User License)

ID: IDB0025DD64EN

## Abstracts

### Report Scope:

This report reviews both global and regional ionic liquid markets for different end-use industries. The report analyzes the current market status and trends and provides growth forecasts for the five-year period from 2020 to 2026. The report has detailed analyses of key trends and opportunities that would help market growth. It will also analyze the major challenges faced by manufacturers and end users of ionic liquids.

The report will also have a separate section highlighting the impact of COVID-19 on ionic liquid market at a global level. The section will include the impact of COVID-19 on demand and supply of ionic liquids, as well as various strategic decisions taken by government to boost the market.

The market size and estimations are provided in terms of value (\$ thousands), with 2020 as the base year and market forecasts from 2021 to 2026. For companies that reported their revenue in other currencies, the average annual currency conversion rate was used for the particular year to convert the revenue to U.S. dollars.

The report study will be segmented into four geographical regions: North America, Europe, Asia-Pacific and Rest of the World (ROW), along with a segmental analysis based on applications. The impact of COVID-19 will be considered while estimating the market size.

### Report Includes:

83 tables

An overview of the global markets and applications of ionic liquids

Analyses of global market trends, with data from 2020, estimates for 2021 and projections of compound annual growth rates (CAGRs) through 2026

Coverage of milestones in the history of ionic liquids; explanation of characteristics of ionic liquids such as low vapor pressure, stability, and environment friendliness, and discussion on current events within the industry

Description of commercial ionic liquids production technologies and discussion on ionic liquids as a sustainable replacement of traditional organic solvents

Detailed analysis of the current market trends and forecast, relevant R&D activities, new products launches and product enhancement in the industry and discussion of regulatory elements that are affecting the future marketplace

Analysis of supply and sourcing issues, latest development, commercialization hurdles, market trend, and demand side analysis

Market share analysis of the key companies of the industry and coverage of events like mergers & acquisitions, joint ventures, collaborations or partnerships, and other key market strategies

Comprehensive company profiles of the suppliers of different types of ionic liquids, including BASF SE, Ionic Liquid Chemicals LLC, Koei Chemical Co., Ltd., Proionic GMBH, Solvay and Synthio Chemicals Inc.

## Contents

### **CHAPTER 1 INTRODUCTION**

Definition  
Market Overview  
Study Goals and Objectives  
Reasons for Doing This Study  
What's New in This Report?  
Scope of Report  
Methodology and Information Sources  
Geographic Breakdown  
Analyst's Credentials  
BCC Custom Research  
Related BCC Research Reports

### **CHAPTER 2 SUMMARY AND HIGHLIGHTS**

### **CHAPTER 3 TECHNOLOGY BACKGROUND**

Structure of Ionic Liquids  
Types of Ionic Liquids  
Imidazolium Ionic Liquids  
Pyridinium Ionic Liquids  
Ammonium Ionic Liquids  
Phosphonium Ionic Liquids  
Pyrrolidinium Ionic Liquids  
Piperidinium Ionic Liquids  
Generations of Ionic Liquids  
Physical and Chemical Properties  
Electrical Conductivity  
Electrochemical Stability  
Physical and Thermal Stability  
Color  
Hygroscopicity  
Solvency  
Toxicity  
Ionic Liquid Synthesis Methods

## **CHAPTER 4 MARKET OVERVIEW**

Overview  
Industry Structure  
Pricing Analysis  
Overview  
Pricing Methodology  
Pricing Analysis  
Market Dynamics  
Drivers  
Restraints  
Opportunities

## **CHAPTER 5 MARKET TRENDS**

Value Chain Analysis  
Raw Materials and Product Manufacturing  
Distribution  
End Users  
Impact of COVID-19 on Ionic Liquid Market  
Introduction  
Impact on Demand  
Impact on Supply  
Conclusion  
Ionic Liquid-Based Technology Commercialization  
BASF SE  
Evonik  
Eastman Chemical Co.  
Sigma-Aldrich (a subsidiary of Merck Group)  
Queens University Ionic Liquids Laboratory (QUILL) and Petroliam Nasional Berhad (PETRONAS)  
Chevron Corp.  
Air Products Inc.  
Linde PLC  
IoLiTec Ionic Liquids Technologies GmbH  
Proionic GmbH  
Central Glass Co., Ltd.  
NoHMs Technologies  
Eli Lilly and Co.

IFP Group

## **CHAPTER 6 MARKET BREAKDOWN BY APPLICATION**

Electrochemical Devices  
Electrolytes for Lithium-Ion Batteries (LiBs)  
Supercapacitors  
Dye-Sensitized Solar Cells  
Biotechnology  
Commercialization Initiatives  
Industrial Solvents and Catalysts  
Commercialization Initiatives  
Plasticizer/Polymer Additive  
Ionic Liquids as Lubricants  
Separation Processes  
Membrane Gas Separation  
Liquid-Liquid Extraction  
Extractive Distillation  
Metal Finishing  
Aluminum Electro-Deposition  
Electropolishing  
Chrome Electro-Plating  
Others  
Commercialization Initiatives

## **CHAPTER 7 MARKET BREAKDOWN BY REGION**

Overview  
Market Opportunity by Major Regions  
Europe  
Asia-Pacific  
North America  
Rest of the World (ROW)

## **CHAPTER 8 COMPETITIVE LANDSCAPE**

Competitive Landscape: Global

## **CHAPTER 9 COMPANY PROFILES**

*Ionic Liquids: Environmentally Sustainable Solvent, Energy Storage and Separation Processes*

BASF SE  
HENAN TIANFU CHEMICAL CO., LTD.  
IOLITEC IONIC LIQUIDS TECHNOLOGIES GMBH  
IONIC LIQUID CHEMICALS LLC  
JINXI JINKAI CHEMICAL CO., LTD.  
KOEI CHEMICAL CO., LTD.  
OTTOKEMI  
PROIONIC GMBH  
SOLARONIX SA  
SOLVAY  
SOLVIONIC  
STREM CHEMICALS INC. (A SUBSIDIARY OF ASCENSUS SPECIALTIES)  
SYNTHIO CHEMICALS INC.  
TATVA CHINTAN PHARMA CHEM. LTD.

## **CHAPTER 10 APPENDIX: ACRONYMS AND CHEMICAL NAMES**

## List Of Tables

### LIST OF TABLES

- Summary Table: Global Market for Ionic Liquids, by Application, Through 2026
- Table 1: Imidazolium-Based Ionic Liquids and Their Potential Applications
- Table 2: Pyridinium-Based Ionic Liquids and Their Potential Applications
- Table 3: Ammonium-Based Ionic Liquids and Their Potential Applications
- Table 4: Phosphonium-Based Ionic Liquids and Their Potential Applications
- Table 5: Pyrrolidinium-Based Ionic Liquids and Their Potential Applications
- Table 6: Piperidinium-Based Ionic Liquids and Their Potential Applications
- Table 7: Merck KGaA Pricing
- Table 8: BASF SE Pricing
- Table 9: TCI Chemicals Pricing
- Table 10: Proionic Pricing
- Table 11: Otto Chemie Pvt., Ltd. Pricing
- Table 12: Alfa Aesar Pricing
- Table 13: Strem Chemical Pricing
- Table 14: Sisco Research Pricing
- Table 15: Low Range and High Range Pricing Considered for This Study
- Table 16: Funding by Government Bodies
- Table 17: Installation Cost for Sulfuric Acid and Ionic Liquids Alkylation Unit
- Table 18: BASF SE: Company Overview, 2020
- Table 19: Evonik: Company Overview, 2020
- Table 20: Eastman Chemical Co.: Company Overview, 2020
- Table 21: Sigma-Aldrich (Merck Group subsidiary): Company Overview, 2020
- Table 22: Queens University Ionic Liquids Laboratory (QUILL): University Overview, 2020
- Table 23: Petroliam Nasional Berhad (PETRONAS): Company Overview, 2020
- Table 24: Chevron Corp.: Company Overview, 2020
- Table 25: Air Products Inc.: Company Overview, 2020
- Table 26: Linde PLC: Company Overview, 2020
- Table 27: IoLiTec Ionic Liquids Technologies GmbH: Company Overview, 2020
- Table 28: Proionic GmbH: Company Overview, 2020
- Table 29: Central Glass Co., Ltd.: Company Overview, 2020
- Table 30: NOHMs Technologies Inc.: Company Overview, 2020
- Table 31: Eli Lilly and Co.: Company Overview, 2020
- Table 32: IFP Group: Company Overview, 2020
- Table 33: Global Market for Ionic Liquids, by Application, Through 2026

Table 34: Global Market for Ionic Liquids in Electrochemical Device Applications, Through 2026

Table 35: Global Market for Ionic Liquids in Biotechnology Applications, Through 2026

Table 36: Global Market for Ionic Liquids in Industrial Solvent and Catalyst Applications, Through 2026

Table 37: Global Market for Ionic Liquids in Separation Process Applications, Through 2026

Table 38: Global Market for Ionic Liquids in Metal Finishing Applications, Through 2026

Table 39: Global Market for Ionic Liquids in Other Applications, Through 2026

Table 40: Global Market for Ionic Liquids, by Region, Through 2026

Table 41: European Market for Ionic Liquids, Through 2026

Table 42: European Market for Ionic Liquids, by Country, Through 2026

Table 43: Asia-Pacific Market for Ionic Liquids, Through 2026

Table 44: Asia-Pacific Market for Ionic Liquids, by Country, Through 2026

Table 45: North American Market for Ionic Liquids, Through 2026

Table 46: North American Market for Ionic Liquids, by Country, Through 2026

Table 47: ROW Market for Ionic Liquids, Through 2026

Table 48: ROW Market for Ionic Liquids, by Sub-Region, Through 2026

Table 49: BASF SE: Company Overview, 2020

Table 50: BASF SE: Product Portfolio

Table 51: Henan Tianfu Chemical Co., Ltd.: Company Overview, 2020

Table 52: Henan Tianfu Chemical Co., Ltd.: Product Portfolio

Table 53: Iolitec Ionic Liquids Technologies GmbH: Company Overview, 2020

Table 54: Iolitec Ionic Liquids Technologies GmbH: Product Portfolio

Table 55: Ionic Liquid Chemicals LLC: Company Overview, 2020

Table 56: Ionic Liquid Chemicals LLC: Product Portfolio

Table 57: Jinxi Jinkai Chemical Co., Ltd.: Company Overview, 2020

Table 58: Jinxi Jinkai Chemical Co., Ltd.: Product Portfolio

Table 59: Koei Chemical Co., Ltd.: Company Overview, 2020

Table 60: Koei Chemical Co., Ltd.: Product Portfolio

Table 61: Ottokemi: Company Overview, 2020

Table 62: Ottokemi: Product Portfolio

Table 63: Proionic GmbH: Company Overview, 2020

Table 64: Proionic GmbH: Product Portfolio

Table 65: Proionic GmbH: Recent Developments

Table 66: Solaronix SA: Company Overview, 2020

Table 67: Solaronix SA: Product Portfolio

Table 68: Solvay: Company Overview, 2020

Table 69: Solvay: Product Portfolio



Table 70: Solvionic: Company Overview, 2020

Table 71: Solvionic: Product Portfolio

Table 72: Solvionic: Recent Developments

Table 73: Strem Chemicals Inc.: Company Overview, 2020

Table 74: Strem Chemicals Inc.: Product Portfolio

Table 75: Strem Chemicals Inc.: Recent Developments

Table 76: Synthio Chemicals Inc.: Company Overview, 2020

Table 77: Synthio Chemicals Inc.: Product Portfolio

Table 78: Synthio Chemicals Inc.: Recent Developments

Table 79: Tatva Chintan Pharma Chem. Ltd.: Company Overview, 2020

Table 80: Tatva Chintan Pharma Chem. Ltd.: Product Portfolio

Table 81: Acronyms Used in This Report

Table 82: Chemical Names Used in This Report

## List Of Figures

### LIST OF FIGURES

- Summary Figure: Global Market for Ionic Liquids, by Application, 2020-2026
- Figure 1: Share of Lithium-ion Battery Production, by Geography, 2020
- Figure 2: Share of Lithium-ion Battery Production, by Geography, 2025
- Figure 3: Global Market Share for Ionic Liquids, by Application, 2020
- Figure 4: Global Market Share for Ionic Liquids in Electrochemical Device Applications, by Application, 2020
- Figure 5: Global LiB Electrolyte Demand, 2016-2020
- Figure 6: Global Production Share for LiB Electrolytes, by Country/Region, 2020
- Figure 7: Global EV Sales, 2016-2030
- Figure 8: Challenges and Future Research on IL for Supercapacitors
- Figure 9: Global Ethanol Production, 2014-2020
- Figure 10: Global Share for Ethanol Production, by Country/Region, 2020
- Figure 11: Ionic Liquid Properties for Lubrication
- Figure 12: Global Market Share for Ionic Liquids in Lubricating Additive Applications, 2026
- Figure 13: Global Market Share for Ionic Liquids, by Region, 2020
- Figure 14: European Market Share for Ionic Liquids, by Country, 2020
- Figure 15: European Market Share for Ionic Liquids, by Application, 2020
- Figure 16: Annual Tender Volume for Solar PV Installations in Germany, 2021-2028
- Figure 17: Asia-Pacific Market Share for Ionic Liquids, by Country, 2020
- Figure 18: Asia-Pacific Market Share for Ionic Liquids, by Application, 2020
- Figure 19: North American Market Share for Ionic Liquids, by Country, 2020
- Figure 20: North American Market Share for Ionic Liquids, by Application, 2020
- Figure 21: ROW Market Share for Ionic Liquids, by Sub-Region, 2020
- Figure 22: ROW Market Share for Ionic Liquids, by Application, 2020
- Figure 23: Ethanol Production in Brazil, 2015-2020
- Figure 24: Global Market Share for Ionic Liquids, by Key Company, 2020
- Figure 25: BASF SE: Company Revenue, 2019 and 2020
- Figure 26: BASF SE: R&D Expenditures, 2019 and 2020
- Figure 27: BASF SE: Revenue Share, by Segment, 2021
- Figure 28: BASF SE: Revenue Share, by Geography, 2021
- Figure 29: Koei Chemical Co., Ltd.: Company Revenue, 2019 and 2020
- Figure 30: Solvay: Company Revenue, 2019 and 2020
- Figure 31: Solvay: R&D Expenditures, 2019 and 2020
- Figure 32: Solvay: Revenue Share, by Segment, 2020

Figure 33: Solvay: Revenue Share, by Geography, 2020

Figure 34: Tatva Chintan Pharma Chem. Ltd.: Company Revenue, 2019 and 2020

Figure 35: Tatva Chintan Pharma Chem. Ltd.: R&D Expenditures, 2019 and 2020

Figure 36: Tatva Chintan Pharma Chem. Ltd.: Revenue Share, by Products, 2020

Figure 37: Tatva Chintan Pharma Chem. Ltd.: Revenue Share, by Geography, 2020

## I would like to order

Product name: Ionic Liquids: Environmentally Sustainable Solvent, Energy Storage and Separation Processes

Product link: <https://marketpublishers.com/r/IDB0025DD64EN.html>

Price: US\$ 2,750.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/IDB0025DD64EN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:  
Last name:  
Email:  
Company:  
Address:  
City:  
Zip code:  
Country:  
Tel:  
Fax:  
Your message:

**\*\*All fields are required**

Customer signature \_\_\_\_\_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970

