

Hydrodesulfurization Catalyst Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028F Segmented By Feedstock (Natural Gas, Naphtha, Heavy Oil, Diesel Oil, Kerosene and Others), By Type (Cobalt-Molybdenum, Nickel based and Others), By End-User Industry (Petro Chemicals, and Natural Gas Processing), By Region, and Competition

<https://marketpublishers.com/r/H6C18541394BEN.html>

Date: July 2023

Pages: 118

Price: US\$ 4,900.00 (Single User License)

ID: H6C18541394BEN

Abstracts

Global Hydrodesulfurization Catalysts market is anticipated to grow appreciably in the forecast period of 2028 due to stringent environmental regulations. Biofuels, such as ethanol and biodiesel, are also becoming more widely used as a cleaner alternative to fossil fuels. According to the Renewable Energy Policy Network for the 21st Century (REN21), global production of biofuels reached 162 billion liters in 2019, up from 157 billion liters in 2018.

Hydrodesulfurization (HDS) Catalysts are an essential component of the oil and gas industry. These catalysts are used to remove sulfur from crude oil, which is a crucial step in the refining process. The increasing demand for clean fuels and stringent environmental regulations are driving the growth of the global hydrodesulfurization (HDS) catalyst market. The refining industry is under pressure to reduce the sulfur content in fuels, particularly diesel, to meet the global sulfur emission standards. The International Maritime Organization (IMO) has set a limit of 0.5% sulfur content in marine fuels from January 2020, down from the previous limit of 3.5%. This has created a huge demand for HDS Catalysts, as refineries need to upgrade their facilities to meet the new regulations, thereby driving the growth of the global hydrodesulfurization catalysts market.

Players operating in the global hydrodesulfurization (HDS) catalysts market are focusing on product innovation, collaborations, and acquisitions to strengthen their market position. For instance, in March 2020, Clariant AG launched a new generation of HDS Catalysts, which offer higher activity, selectivity, and lower cost. In December 2020, Albemarle Corporation announced the acquisition of China-based Jiangxi Bao Jiang Lithium Industrial Limited, a leading producer of lithium hydroxide and other lithium-based materials, to expand its lithium business in Asia Pacific.

Therefore, the HDS catalysts market is poised for growth in the upcoming years, driven by the increasing demand for clean fuels and stringent environmental regulations. The market is highly competitive, with several global and regional players vying for market share through product innovation, collaborations, and acquisitions. As the world moves towards a cleaner and sustainable future, the HDS Catalysts market will play a crucial role in the oil and gas industry.

The refining industry is a crucial component of the global energy sector, responsible for processing crude oil into various refined products such as gasoline, diesel, jet fuel, and others. However, crude oil typically contains impurities, such as sulfur, which can have adverse effects on the environment and human health. As a result, the refining industry employs various technologies, including Hydrodesulfurization (HDS), to remove these impurities and produce cleaner fuels. HDS is a catalytic process that involves the use of HDS Catalysts to remove sulfur from crude oil. The process involves reacting the crude oil with hydrogen gas in the presence of the catalyst, which promotes the conversion of sulfur compounds into hydrogen sulfide, a less harmful substance. The hydrogen sulfide can then be removed from the product stream using various downstream processing techniques.

The use of HDS Catalysts has become increasingly important in the refining industry due to stricter environmental regulations and the growing demand for cleaner fuels. For instance, the European Union has set a limit of 10 parts per million (ppm) of sulfur content in diesel fuel, which is significantly lower than the previous limit of 50 ppm. Similarly, the United States Environmental Protection Agency (EPA) has set a limit of 15 ppm sulfur content in gasoline and diesel fuel. These regulations have forced refineries to invest in HDS Catalysts and other technologies to comply with the new standards.

The Hydrodesulfurization Catalyst market is, therefore, an integral part of the refining industry, providing a crucial technology to produce cleaner fuels. The market is expected to grow in the projected period, driven by increasing demand for cleaner fuels and stricter environmental regulations. The market is also expected to witness

innovations in catalyst design and increased investment in research and development to improve the efficiency and effectiveness of the process. The refining industry will continue to play a critical role in the global energy sector, and the use of Hydrodesulfurization catalysts or HDS Catalysts will be essential in meeting the growing demand for cleaner and more sustainable energy sources.

Growing Demand for Naphtha is Driving the Growth of the Hydrodesulfurization Catalyst Market.

Naphtha is a hydrocarbon liquid mixture that is typically produced during the refining process of crude oil. It is used as a feedstock for various chemical processes, including the production of gasoline, plastics, and other petrochemical products. However, Naphtha can contain impurities, such as sulfur and nitrogen compounds, that can have adverse effects on the environment and the performance of downstream processes. As a result, the refining industry often employs Hydrodesulfurization (HDS) catalysts to remove these impurities from Naphtha. HDS catalysts are typically composed of metals such as molybdenum or nickel, which are supported on a high-surface-area material such as alumina or silica. The catalyst is used in a reactor, where the Naphtha is reacted with hydrogen gas in the presence of the catalyst. The sulfur and nitrogen compounds in the Naphtha react with the hydrogen to form hydrogen sulfide and ammonia, respectively, which can be removed from the product stream.

The use of HDS catalysts in the treatment of Naphtha can improve the performance and efficiency of downstream processes. For instance, the presence of sulfur and nitrogen compounds in Naphtha can lead to the fouling of catalysts used in downstream processes, such as the production of plastics. By removing these impurities, the HDS catalysts can improve the lifespan and performance of these catalysts, reducing the need for costly replacements. The use of HDS catalysts in the treatment of Naphtha can also improve the environmental impact of the refining industry. The sulfur and nitrogen compounds in Naphtha can contribute to air pollution, including the formation of smog and acid rain. By removing these impurities, the HDS catalysts can reduce the emissions of harmful pollutants and improve the air quality in surrounding areas. Therefore, the use of HDS catalysts is an essential technology for the refining industry, particularly in the treatment of Naphtha. The catalysts can improve the performance and efficiency of downstream processes while also reducing the environmental impact of the industry. As the demand for cleaner fuels and sustainable chemical processes continues to grow, the use of Hydrodesulfurization catalysts, or HDS catalysts, is expected to become even more important in the refining industry.

Rising Demand for Diesel Fuel is Driving the Growth of the Hydrodesulfurization Catalyst Market

Diesel fuel is a critical component of the global energy sector and is used to power various transportation and industrial applications. However, diesel fuel typically contains impurities, such as sulfur compounds, that can have adverse effects on the environment and human health. As a result, the refining industry employs various technologies, including Hydrodesulfurization (HDS), to remove these impurities and produce cleaner diesel fuel. HDS is a catalytic process that involves the use of HDS catalysts to remove sulfur compounds from diesel fuel. The process involves reacting the diesel fuel with hydrogen gas in the presence of the catalyst, which promotes the conversion of sulfur compounds into hydrogen sulfide, a less harmful substance. The hydrogen sulfide can then be removed from the product stream using various downstream processing techniques.

The use of Hydrodesulfurization catalysts or HDS catalysts in the treatment of diesel fuel has become increasingly important due to stricter environmental regulations and the growing demand for cleaner fuels. These regulations have forced refineries to invest in Hydrodesulfurization catalysts, or HDS catalysts, and other technologies to comply with the new standards. The use of Hydrodesulfurization catalysts or HDS catalysts in the treatment of diesel fuel can also improve the performance and efficiency of diesel engines. The presence of sulfur compounds in diesel fuel can lead to the formation of particulate matter and other harmful emissions, which can reduce the lifespan of diesel engines and increase maintenance costs. By removing these impurities, the HDS catalysts can improve the performance and efficiency of diesel engines, reducing emissions and extending the lifespan of the engines. Therefore, the use of HDS catalysts is an essential technology for the refining industry, particularly in the treatment of diesel fuel. The catalysts can remove sulfur compounds and improve the environmental impact of diesel fuel while also improving the performance and efficiency of diesel engines. As the demand for cleaner fuels and sustainable transportation continues to grow, the use of HDS catalysts is expected to rise.

Recent Developments

AxTrap™ is a new type of HDS catalyst developed by Axens that combines a zeolite structure with a metal oxide, resulting in high activity and selectivity for HDS reactions. The catalyst is designed to be used in severe operating conditions, such as high-pressure hydrocracking units, and has been shown to have excellent stability and a long lifespan.

Impulse™ Catalysts are a new class of catalysts developed by W.R. Grace & Co. that utilize a proprietary manufacturing process to create highly uniform and stable catalyst particles. These catalysts have been shown to have high activity and selectivity for HDS reactions, as well as improved resistance to deactivation.

K-610 NanoSelect™ catalyst is an advanced nanotechnology that utilizes a proprietary binder system and a unique particle structure that ensures consistent performance across the catalyst bed. This allows for more efficient operation and longer catalyst life, reducing the need for frequent catalyst replacement and improving the overall efficiency of the refinery.

UniPrime™ Catalysts are a new line of HDS catalysts developed by Honeywell UOP that utilize a novel zeolite structure to improve the performance of the catalyst. These catalysts have been shown to have high activity and selectivity for HDS reactions, as well as improved resistance to deactivation.

The HydraForce™ catalyst by Shell Catalysts & Technologies is designed to improve the performance of HDS units in refineries, particularly those that are processing heavy crude oils with high sulfur content. The HydraForce™ catalyst utilizes a unique metal-organic framework (MOF) structure, which provides a large surface area for catalytic reactions and allows for better access to the active sites on the catalyst surface. This results in higher activity and selectivity for HDS reactions, as well as improved stability and resistance to deactivation.

Market Segmentation

Global Hydrodesulfurization Catalysts Market is segmented based on feedstock, type, end-user Industry, and region. Based on feedstock, the market is segmented into natural gas, Naphtha, heavy oil, diesel oil, Kerosene, and others. Based on type, the market is fragmented into cobalt-molybdenum, nickel-based, and others. Based on end-user type, the market is categorized into Petrochemicals and natural gas processing. Based on region, the market is divided into North America, Europe, Asia Pacific, South America, Middle East & Africa.

Company Profiles

Advanced Refining Technologies LLC, Albemarle Corporation, Haldor Topsoe Inc,

Clariant AG, BASF SE, Shell PLC, China Petroleum and Chemical Corporation (Sinopec), Johnson Matthey PLC, Dorf Ketal Specialty Catalysts LLC, and Axens SA are some of the key players of Global Hydrodesulfurization Catalysts Market.

Report Scope:

In this report, global Hydrodesulfurization Catalysts market has been segmented into the following categories, in addition to the industry trends, which have also been detailed below:

Hydrodesulfurization Catalysts Market, By Feedstock:

Natural Gas

Naphtha

Heavy Oil

Diesel Oil

Kerosene

Others

Hydrodesulfurization Catalysts Market, By Type:

Cobalt-Molybdenum

Nickel Based

Others

Hydrodesulfurization Catalysts Market, By End-User Industry:

Petro Chemicals

Natural Gas Processing

Hydrodesulfurization Catalysts Market, By Region:

North America

United States

Mexico

Canada

Europe

France

Germany

United Kingdom

Spain

Italy

Asia-Pacific

China

India

South Korea

Japan

Australia

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Competitive landscape

Company Profiles: Detailed analysis of the major companies present in the global Hydrodesulfurization Catalysts market.

Available Customizations:

With the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

Contents

1. PRODUCT OVERVIEW

- 1.1. Market Definition
- 1.2. Scope of the Market
 - 1.2.1. Markets Covered
 - 1.2.2. Years Considered for Study
 - 1.2.3. Key Market Segmentations

2. RESEARCH METHODOLOGY

- 2.1. Objective of the Study
- 2.2. Baseline Methodology
- 2.3. Key Industry Partners
- 2.4. Major Association and Secondary Sources
- 2.5. Forecasting Methodology
- 2.6. Data Triangulation & Validation
- 2.7. Assumptions and Limitations

3. EXECUTIVE SUMMARY

- 3.1. Overview of the Market
- 3.2. Overview of Key Market Segmentations
- 3.3. Overview of Key Market Players
- 3.4. Overview of Key Regions/Countries
- 3.5. Overview of Market Drivers, Challenges, Trends

4. VOICE OF CUSTOMER

5. GLOBAL HYDRODESULFURIZATION CATALYSTS MARKET OUTLOOK

- 5.1. Market Size & Forecast
 - 5.1.1. By Value
- 5.2. Market Share & Forecast
 - 5.2.1. By Feedstock (Natural Gas, Naphtha, Heavy Oil, Diesel Oil, Kerosene and Others)
 - 5.2.2. By Type (Cobalt-Molybdenum, Nickel based and Others)
 - 5.2.3. By End-User Industry (Petro Chemicals, and Natural Gas Processing)

5.2.4. By Region (North America, Europe, Asia Pacific, South America, Middle East & Africa)

5.2.5. By Company (2022)

5.3. Market Map

5.3.1. By Feedstock

5.3.2. By Type

5.3.3. By End-User Industry

5.3.4. By Region

6. NORTH AMERICA HYDRODESULFURIZATION CATALYSTS MARKET OUTLOOK

6.1. Market Size & Forecast

6.1.1. By Value

6.2. Market Share & Forecast

6.2.1. By Feedstock

6.2.2. By Type

6.2.3. By End-User Industry

6.2.4. By Country

6.3. Pricing Analysis

6.4. North America: Country Analysis

6.4.1. United States Hydrodesulfurization Catalysts Market Outlook

6.4.1.1. Market Size & Forecast

6.4.1.1.1. By Value

6.4.1.2. Market Share & Forecast

6.4.1.2.1. By Feedstock

6.4.1.2.2. By Type

6.4.1.2.3. By End-User Industry

6.4.2. Mexico Hydrodesulfurization Catalysts Market Outlook

6.4.2.1. Market Size & Forecast

6.4.2.1.1. By Value

6.4.2.2. Market Share & Forecast

6.4.2.2.1. By Feedstock

6.4.2.2.2. By Type

6.4.2.2.3. By End-User Industry

6.4.3. Canada Hydrodesulfurization Catalysts Market Outlook

6.4.3.1. Market Size & Forecast

6.4.3.1.1. By Value

6.4.3.2. Market Share & Forecast

- 6.4.3.2.1. By Feedstock
- 6.4.3.2.2. By Type
- 6.4.3.2.3. By End-User Industry

7. EUROPE HYDRODESULFURIZATION CATALYSTS MARKET OUTLOOK

- 7.1. Market Size & Forecast
 - 7.1.1. By Value
- 7.2. Market Share & Forecast
 - 7.2.1. By Feedstock
 - 7.2.2. By Type
 - 7.2.3. By End-User Industry
 - 7.2.4. By Country
- 7.3. Pricing Analysis
- 7.4. Europe: Country Analysis
 - 7.4.1. France Hydrodesulfurization Catalysts Market Outlook
 - 7.4.1.1. Market Size & Forecast
 - 7.4.1.1.1. By Value
 - 7.4.1.2. Market Share & Forecast
 - 7.4.1.2.1. By Feedstock
 - 7.4.1.2.2. By Type
 - 7.4.1.2.3. By End-User Industry
 - 7.4.2. Germany Hydrodesulfurization Catalysts Market Outlook
 - 7.4.2.1. Market Size & Forecast
 - 7.4.2.1.1. By Value
 - 7.4.2.2. Market Share & Forecast
 - 7.4.2.2.1. By Feedstock
 - 7.4.2.2.2. By Type
 - 7.4.2.2.3. By End-User Industry
 - 7.4.3. United Kingdom Hydrodesulfurization Catalysts Market Outlook
 - 7.4.3.1. Market Size & Forecast
 - 7.4.3.1.1. By Value
 - 7.4.3.2. Market Share & Forecast
 - 7.4.3.2.1. By Feedstock
 - 7.4.3.2.2. By Type
 - 7.4.3.2.3. By End-User Industry
 - 7.4.4. Spain Hydrodesulfurization Catalysts Market Outlook
 - 7.4.4.1. Market Size & Forecast
 - 7.4.4.1.1. By Value

- 7.4.4.2. Market Share & Forecast
 - 7.4.4.2.1. By Feedstock
 - 7.4.4.2.2. By Type
 - 7.4.4.2.3. By End-User Industry
- 7.4.5. Italy Hydrodesulfurization Catalysts Market Outlook
 - 7.4.5.1. Market Size & Forecast
 - 7.4.5.1.1. By Value
 - 7.4.5.2. Market Share & Forecast
 - 7.4.5.2.1. By Feedstock
 - 7.4.5.2.2. By Type
 - 7.4.5.2.3. By End-User Industry

8. ASIA-PACIFIC HYDRODESULFURIZATION CATALYSTS MARKET OUTLOOK

- 8.1. Market Size & Forecast
 - 8.1.1. By Value
- 8.2. Market Share & Forecast
 - 8.2.1. By Feedstock
 - 8.2.2. By Type
 - 8.2.3. By End-User Industry
 - 8.2.4. By Country
- 8.3. Pricing Analysis
- 8.4. Asia-Pacific: Country Analysis
 - 8.4.1. China Hydrodesulfurization Catalysts Market Outlook
 - 8.4.1.1. Market Size & Forecast
 - 8.4.1.1.1. By Value
 - 8.4.1.2. Market Share & Forecast
 - 8.4.1.2.1. By Feedstock
 - 8.4.1.2.2. By Type
 - 8.4.1.2.3. By End-User Industry
 - 8.4.2. India Hydrodesulfurization Catalysts Market Outlook
 - 8.4.2.1. Market Size & Forecast
 - 8.4.2.1.1. By Value
 - 8.4.2.2. Market Share & Forecast
 - 8.4.2.2.1. By Feedstock
 - 8.4.2.2.2. By Type
 - 8.4.2.2.3. By End-User Industry
 - 8.4.3. South Korea Hydrodesulfurization Catalysts Market Outlook
 - 8.4.3.1. Market Size & Forecast

- 8.4.3.1.1. By Value
- 8.4.3.2. Market Share & Forecast
 - 8.4.3.2.1. By Feedstock
 - 8.4.3.2.2. By Type
 - 8.4.3.2.3. By End-User Industry
- 8.4.4. Japan Hydrodesulfurization Catalysts Market Outlook
 - 8.4.4.1. Market Size & Forecast
 - 8.4.4.1.1. By Value
 - 8.4.4.2. Market Share & Forecast
 - 8.4.4.2.1. By Feedstock
 - 8.4.4.2.2. By Type
 - 8.4.4.2.3. By End-User Industry
- 8.4.5. Australia Hydrodesulfurization Catalysts Market Outlook
 - 8.4.5.1. Market Size & Forecast
 - 8.4.5.1.1. By Value
 - 8.4.5.2. Market Share & Forecast
 - 8.4.5.2.1. By Feedstock
 - 8.4.5.2.2. By Type
 - 8.4.5.2.3. By End-User Industry

9. SOUTH AMERICA HYDRODESULFURIZATION CATALYSTS MARKET OUTLOOK

- 9.1. Market Size & Forecast
 - 9.1.1. By Value
- 9.2. Market Share & Forecast
 - 9.2.1. By Feedstock
 - 9.2.2. By Type
 - 9.2.3. By End-User Industry
 - 9.2.4. By Country
- 9.3. Pricing Analysis
- 9.4. South America: Country Analysis
 - 9.4.1. Brazil Hydrodesulfurization Catalysts Market Outlook
 - 9.4.1.1. Market Size & Forecast
 - 9.4.1.1.1. By Value
 - 9.4.1.2. Market Share & Forecast
 - 9.4.1.2.1. By Feedstock
 - 9.4.1.2.2. By Type
 - 9.4.1.2.3. By End-User Industry

9.4.2. Argentina Hydrodesulfurization Catalysts Market Outlook

9.4.2.1. Market Size & Forecast

9.4.2.1.1. By Value

9.4.2.2. Market Share & Forecast

9.4.2.2.1. By Feedstock

9.4.2.2.2. By Type

9.4.2.2.3. By End-User Industry

9.4.3. Colombia Hydrodesulfurization Catalysts Market Outlook

9.4.3.1. Market Size & Forecast

9.4.3.1.1. By Value

9.4.3.2. Market Share & Forecast

9.4.3.2.1. By Feedstock

9.4.3.2.2. By Type

9.4.3.2.3. By End-User Industry

10. MIDDLE EAST AND AFRICA HYDRODESULFURIZATION CATALYSTS MARKET OUTLOOK

10.1. Market Size & Forecast

10.1.1. By Value

10.2. Market Share & Forecast

10.2.1. By Feedstock

10.2.2. By Type

10.2.3. By End-User Industry

10.2.4. By Country

10.3. Pricing Analysis

10.4. MEA: Country Analysis

10.4.1. South Africa Hydrodesulfurization Catalysts Market Outlook

10.4.1.1. Market Size & Forecast

10.4.1.1.1. By Value

10.4.1.2. Market Share & Forecast

10.4.1.2.1. By Feedstock

10.4.1.2.2. By Type

10.4.1.2.3. By End-User Industry

10.4.2. Saudi Arabia Hydrodesulfurization Catalysts Market Outlook

10.4.2.1. Market Size & Forecast

10.4.2.1.1. By Value

10.4.2.2. Market Share & Forecast

10.4.2.2.1. By Feedstock

- 10.4.2.2.2. By Type
- 10.4.2.2.3. By End-User Industry
- 10.4.3. UAE Hydrodesulfurization Catalysts Market Outlook
 - 10.4.3.1. Market Size & Forecast
 - 10.4.3.1.1. By Value
 - 10.4.3.2. Market Share & Forecast
 - 10.4.3.2.1. By Feedstock
 - 10.4.3.2.2. By Type
 - 10.4.3.2.3. By End-User Industry

11. MARKET DYNAMICS

- 11.1. Drivers
- 11.2. Challenges

12. MARKET TRENDS & DEVELOPMENTS

- 12.1. Product Launches
- 12.2. Merger's & Acquisitions
- 12.3. Technological Advancements

13. GLOBAL HYDRODESULFURIZATION CATALYSTS MARKET: SWOT ANALYSIS

14. PORTER'S FIVE FORCES ANALYSIS

- 14.1. Competition in the Industry
- 14.2. Potential of New Entrants
- 14.3. Power of Suppliers
- 14.4. Power of Customers
- 14.5. Threat of Substitute Products

15. COMPETITIVE LANDSCAPE

- 15.1. Business Overview
- 15.2. Product Offerings
- 15.3. Recent Developments
- 15.4. Financials (In Case of Listed Companies)
- 15.5. Key Personnel

- 15.5.1. Advanced Refining Technologies LLC
- 15.5.2. Albemarle Corporation
- 15.5.3. Haldor Topsoe Inc
- 15.5.4. Clariant AG
- 15.5.5. BASF SE
- 15.5.6. Shell PLC
- 15.5.7. China Petroleum and Chemical Corporation (Sinopec)
- 15.5.8. Johnson Matthey PLC
- 15.5.9. Dorf Ketal Specialty Catalysts LLC
- 15.5.10. Axens SA

16. STRATEGIC RECOMMENDATIONS

17. ABOUT US & DISCLAIMER

I would like to order

Product name: Hydrodesulfurization Catalyst Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028F Segmented By Feedstock (Natural Gas, Naphtha, Heavy Oil, Diesel Oil, Kerosene and Others), By Type (Cobalt-Molybdenum, Nickel based and Others), By End-User Industry (Petro Chemicals, and Natural Gas Processing), By Region, and Competition

Product link: <https://marketpublishers.com/r/H6C18541394BEN.html>

Price: US\$ 4,900.00 (Single User License / Electronic Delivery)

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

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/H6C18541394BEN.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