

# Global Meso-Erythritol Market Analysis and Forecast 2024-2030

https://marketpublishers.com/r/G423EEB92E9FEN.html

Date: April 2024 Pages: 134 Price: US\$ 4,950.00 (Single User License) ID: G423EEB92E9FEN

## Abstracts

Meso-Erythritol (C4H10O4; CAS NO. 149-32-6; Erythritol; Phycitol; Erythrit; Phycite) is a four-carbon sugar that is found in algae, fungi, and lichens. It is twice as sweet as sucrose and can be used as a coronary vasodilator.

Erythritol occurs widely in nature and has been found to occur naturally in several foods including wine, sake, beer, water melon, pear, grape and soy sauce. Evidence indicates that erythritol also exists endogenously in the tissues and body fluids of humans and animals. Erythritol is absorbed from the proximal intestine by passive diffusion in a manner similar to that of many low molecular weight organic molecules which do not have associated active transport systems, the rate of absorption being related to their molecular size; erythritol, a 4-carbon molecule, passes through the intestinal membranes at a faster rate than larger molecules such as mannitol or glucose. In diabetics, erythritol also has been shown to be rapidly absorbed and excreted unchanged in the urine. Following absorption, ingested erythritol is rapidly distributed throughout the body and has been reported to occur in hepatocytes, pancreatic cells, and vascular smooth muscle cells. Erythritol also has been reported to cross the human placenta and to pass slowly from the plasma into the brain and cerebrospinal fluid.

According to APO Research, The global Meso-Erythritol market is projected to grow from US\$ million in 2024 to US\$ million by 2030, at a Compound Annual Growth Rate (CAGR) of % during the forecast period.

Japan is the largest producer of Meso-Erythritol, with a market share about 35%, followed by North America and China, etc. Cargill, Mitsubishi, Nikken-chemical, Baolingbao Biology and Shandong Sanyuan Biotechnology are the top 5 manufacturers of industry, and they had about 85% combined market share.



In terms of production side, this report researches the Meso-Erythritol production, growth rate, market share by manufacturers and by region (region level and country level), from 2019 to 2024, and forecast to 2030.

In terms of consumption side, this report focuses on the sales of Meso-Erythritol by region (region level and country level), by Company, by Type and by Application. from 2019 to 2024 and forecast to 2030.

This report presents an overview of global market for Meso-Erythritol, capacity, output, revenue and price. Analyses of the global market trends, with historic market revenue or sales data for 2019 - 2023, estimates for 2024, and projections of CAGR through 2030.

This report researches the key producers of Meso-Erythritol, also provides the consumption of main regions and countries. Of the upcoming market potential for Meso-Erythritol, and key regions or countries of focus to forecast this market into various segments and sub-segments. Country specific data and market value analysis for the U.S., Canada, Mexico, Brazil, China, Japan, South Korea, Southeast Asia, India, Germany, the U.K., Italy, Middle East, Africa, and Other Countries.

This report focuses on the Meso-Erythritol sales, revenue, market share and industry ranking of main manufacturers, data from 2019 to 2024. Identification of the major stakeholders in the global Meso-Erythritol market, and analysis of their competitive landscape and market positioning based on recent developments and segmental revenues. This report will help stakeholders to understand the competitive landscape and gain more insights and position their businesses and market strategies in a better way.

This report analyzes the segments data by Type and by Application, sales, revenue, and price, from 2019 to 2030. Evaluation and forecast the market size for Meso-Erythritol sales, projected growth trends, production technology, application and enduser industry.

Descriptive company profiles of the major global players, including Cargill, Mitsubishi, Nikken-chemical, Baolingbao Biology, Shandong Sanyuan Biotechnology, Zhongshun Sci. &Tech. and Futaste, etc.

Meso-Erythritol segment by Company



Cargill

Mitsubishi

Nikken-chemical

**Baolingbao Biology** 

Shandong Sanyuan Biotechnology

Zhongshun Sci. & Tech.

Futaste

#### Meso-Erythritol segment by Type

20-30 Mesh

30-60 Mesh

60-80 Mesh

100 Mesh

Others

#### Meso-Erythritol segment by Application

Food Industry

Pharmaceuticals Industry

**Cosmetics Industry** 

Others



#### Meso-Erythritol segment by Region

North America

U.S.

Canada

Europe

Germany

France

U.K.

Italy

Russia

Asia-Pacific

China

Japan

South Korea

India

#### Australia

China Taiwan

Indonesia

Thailand

Malaysia



Latin America Mexico Brazil Argentina Middle East & Africa Turkey Saudi Arabia UAE

**Study Objectives** 

1. To analyze and research the global status and future forecast, involving, production, value, consumption, growth rate (CAGR), market share, historical and forecast.

2. To present the key manufacturers, capacity, production, revenue, market share, and Recent Developments.

3. To split the breakdown data by regions, type, manufacturers, and Application.

4. To analyze the global and key regions market potential and advantage, opportunity and challenge, restraints, and risks.

5. To identify significant trends, drivers, influence factors in global and regions.

6. To analyze competitive developments such as expansions, agreements, new product launches, and acquisitions in the market.

Reasons to Buy This Report

1. This report will help the readers to understand the competition within the industries



and strategies for the competitive environment to enhance the potential profit. The report also focuses on the competitive landscape of the global Meso-Erythritol market, and introduces in detail the market share, industry ranking, competitor ecosystem, market performance, new product development, operation situation, expansion, and acquisition. etc. of the main players, which helps the readers to identify the main competitors and deeply understand the competition pattern of the market.

2. This report will help stakeholders to understand the global industry status and trends of Meso-Erythritol and provides them with information on key market drivers, restraints, challenges, and opportunities.

3. This report will help stakeholders to understand competitors better and gain more insights to strengthen their position in their businesses. The competitive landscape section includes the market share and rank (in volume and value), competitor ecosystem, new product development, expansion, and acquisition.

4. This report stays updated with novel technology integration, features, and the latest developments in the market.

5. This report helps stakeholders to gain insights into which regions to target globally.

6. This report helps stakeholders to gain insights into the end-user perception concerning the adoption of Meso-Erythritol.

7. This report helps stakeholders to identify some of the key players in the market and understand their valuable contribution.

#### Chapter Outline

Chapter 1: Introduces the report scope of the report, executive summary of different market segments (by type and by application, etc), including the market size of each market segment, future development potential, and so on. It offers a high-level view of the current state of the market and its likely evolution in the short to mid-term, and long term.

Chapter 2: Introduces the market dynamics, latest developments of the market, the driving factors and restrictive factors of the market, the challenges and risks faced by manufacturers in the industry, and the analysis of relevant policies in the industry.



Chapter 3: Meso-Erythritol production/output of global and key producers (regions/countries). It provides a quantitative analysis of the production, and development potential of each producer in the next six years.

Chapter 4: Sales (consumption), revenue of Meso-Erythritol in global, regional level and country level. It provides a quantitative analysis of the market size and development potential of each region and its main countries and introduces the market development, future development prospects, market space of each country in the world.

Chapter 5: Detailed analysis of Meso-Erythritol manufacturers competitive landscape, price, sales, revenue, market share and industry ranking, latest development plan, merger, and acquisition information, etc.

Chapter 6: Provides the analysis of various market segments by type, covering the sales, revenue, average price, and development potential of each market segment, to help readers find the blue ocean market in different market segments.

Chapter 7: Provides the analysis of various market segments by application, covering the sales, revenue, average price, and development potential of each market segment, to help readers find the blue ocean market in different downstream markets.

Chapter 8: Provides profiles of key manufacturers, introducing the basic situation of the main companies in the market in detail, including product descriptions and specifications, Meso-Erythritol sales, revenue, price, gross margin, and recent development, etc.

Chapter 9: North America (US & Canada) by type, by application and by country, sales, and revenue for each segment.

Chapter 10: Europe by type, by application and by country, sales, and revenue for each segment.

Chapter 11: China by type, by application, sales, and revenue for each segment.

Chapter 12: Asia (Excluding China) by type, by application and by region, sales, and revenue for each segment.

Chapter 13: Middle East, Africa, Latin America by type, by application and by country, sales, and revenue for each segment.



Chapter 14: Analysis of industrial chain, sales channel, key raw materials, distributors and customers.

Chapter 15: The main concluding insights of the report.

Chapter 15: The main concluding insights of the report.



# Contents

#### **1 MARKET OVERVIEW**

- 1.1 Product Definition
- 1.2 Meso-Erythritol Market by Type
- 1.2.1 Global Meso-Erythritol Market Size by Type, 2019 VS 2023 VS 2030
- 1.2.2 20-30 Mesh
- 1.2.3 30-60 Mesh
- 1.2.4 60-80 Mesh
- 1.2.5 100 Mesh
- 1.2.6 Others
- 1.3 Meso-Erythritol Market by Application
- 1.3.1 Global Meso-Erythritol Market Size by Application, 2019 VS 2023 VS 2030
- 1.3.2 Food Industry
- 1.3.3 Pharmaceuticals Industry
- 1.3.4 Cosmetics Industry
- 1.3.5 Others
- 1.4 Assumptions and Limitations
- 1.5 Study Goals and Objectives

#### 2 MESO-ERYTHRITOL MARKET DYNAMICS

- 2.1 Meso-Erythritol Industry Trends
- 2.2 Meso-Erythritol Industry Drivers
- 2.3 Meso-Erythritol Industry Opportunities and Challenges
- 2.4 Meso-Erythritol Industry Restraints

#### **3 GLOBAL MESO-ERYTHRITOL PRODUCTION OVERVIEW**

- 3.1 Global Meso-Erythritol Production Capacity (2019-2030)
- 3.2 Global Meso-Erythritol Production by Region: 2019 VS 2023 VS 2030
- 3.3 Global Meso-Erythritol Production by Region
- 3.3.1 Global Meso-Erythritol Production by Region (2019-2024)
- 3.3.2 Global Meso-Erythritol Production by Region (2025-2030)
- 3.3.3 Global Meso-Erythritol Production Market Share by Region (2019-2030)
- 3.4 North America
- 3.5 Europe
- 3.6 China



#### 3.7 Japan

#### **4 GLOBAL MARKET GROWTH PROSPECTS**

- 4.1 Global Meso-Erythritol Revenue Estimates and Forecasts (2019-2030)
- 4.2 Global Meso-Erythritol Revenue by Region
- 4.2.1 Global Meso-Erythritol Revenue by Region: 2019 VS 2023 VS 2030
- 4.2.2 Global Meso-Erythritol Revenue by Region (2019-2024)
- 4.2.3 Global Meso-Erythritol Revenue by Region (2025-2030)
- 4.2.4 Global Meso-Erythritol Revenue Market Share by Region (2019-2030)
- 4.3 Global Meso-Erythritol Sales Estimates and Forecasts 2019-2030
- 4.4 Global Meso-Erythritol Sales by Region
- 4.4.1 Global Meso-Erythritol Sales by Region: 2019 VS 2023 VS 2030
- 4.4.2 Global Meso-Erythritol Sales by Region (2019-2024)
- 4.4.3 Global Meso-Erythritol Sales by Region (2025-2030)
- 4.4.4 Global Meso-Erythritol Sales Market Share by Region (2019-2030)
- 4.5 US & Canada
- 4.6 Europe
- 4.7 China
- 4.8 Asia (Excluding China)
- 4.9 Middle East, Africa and Latin America

#### **5 MARKET COMPETITIVE LANDSCAPE BY MANUFACTURERS**

- 5.1 Global Meso-Erythritol Revenue by Manufacturers
- 5.1.1 Global Meso-Erythritol Revenue by Manufacturers (2019-2024)
- 5.1.2 Global Meso-Erythritol Revenue Market Share by Manufacturers (2019-2024)
- 5.1.3 Global Meso-Erythritol Manufacturers Revenue Share Top 10 and Top 5 in 2023
- 5.2 Global Meso-Erythritol Sales by Manufacturers
  - 5.2.1 Global Meso-Erythritol Sales by Manufacturers (2019-2024)
  - 5.2.2 Global Meso-Erythritol Sales Market Share by Manufacturers (2019-2024)
- 5.2.3 Global Meso-Erythritol Manufacturers Sales Share Top 10 and Top 5 in 2023
- 5.3 Global Meso-Erythritol Sales Price by Manufacturers (2019-2024)
- 5.4 Global Meso-Erythritol Key Manufacturers Ranking, 2022 VS 2023 VS 2024
- 5.5 Global Meso-Erythritol Key Manufacturers Manufacturing Sites & Headquarters
- 5.6 Global Meso-Erythritol Manufacturers, Product Type & Application
- 5.7 Global Meso-Erythritol Manufacturers Commercialization Time
- 5.8 Market Competitive Analysis
- 5.8.1 Global Meso-Erythritol Market CR5 and HHI



5.8.2 2023 Meso-Erythritol Tier 1, Tier 2, and Tier

#### 6 MESO-ERYTHRITOL MARKET BY TYPE

- 6.1 Global Meso-Erythritol Revenue by Type
- 6.1.1 Global Meso-Erythritol Revenue by Type (2019 VS 2023 VS 2030)
- 6.1.2 Global Meso-Erythritol Revenue by Type (2019-2030) & (US\$ Million)
- 6.1.3 Global Meso-Erythritol Revenue Market Share by Type (2019-2030)
- 6.2 Global Meso-Erythritol Sales by Type
- 6.2.1 Global Meso-Erythritol Sales by Type (2019 VS 2023 VS 2030)
- 6.2.2 Global Meso-Erythritol Sales by Type (2019-2030) & (MT)
- 6.2.3 Global Meso-Erythritol Sales Market Share by Type (2019-2030)
- 6.3 Global Meso-Erythritol Price by Type

## 7 MESO-ERYTHRITOL MARKET BY APPLICATION

- 7.1 Global Meso-Erythritol Revenue by Application
  - 7.1.1 Global Meso-Erythritol Revenue by Application (2019 VS 2023 VS 2030)
  - 7.1.2 Global Meso-Erythritol Revenue by Application (2019-2030) & (US\$ Million)
- 7.1.3 Global Meso-Erythritol Revenue Market Share by Application (2019-2030)
- 7.2 Global Meso-Erythritol Sales by Application
  - 7.2.1 Global Meso-Erythritol Sales by Application (2019 VS 2023 VS 2030)
  - 7.2.2 Global Meso-Erythritol Sales by Application (2019-2030) & (MT)
- 7.2.3 Global Meso-Erythritol Sales Market Share by Application (2019-2030)
- 7.3 Global Meso-Erythritol Price by Application

#### **8 COMPANY PROFILES**

- 8.1 Cargill
  - 8.1.1 Cargill Comapny Information
  - 8.1.2 Cargill Business Overview
  - 8.1.3 Cargill Meso-Erythritol Sales, Revenue, Price and Gross Margin (2019-2024)
  - 8.1.4 Cargill Meso-Erythritol Product Portfolio
  - 8.1.5 Cargill Recent Developments
- 8.2 Mitsubishi
  - 8.2.1 Mitsubishi Comapny Information
  - 8.2.2 Mitsubishi Business Overview
  - 8.2.3 Mitsubishi Meso-Erythritol Sales, Revenue, Price and Gross Margin (2019-2024)
  - 8.2.4 Mitsubishi Meso-Erythritol Product Portfolio





- 8.2.5 Mitsubishi Recent Developments
- 8.3 Nikken-chemical
  - 8.3.1 Nikken-chemical Comapny Information
  - 8.3.2 Nikken-chemical Business Overview
- 8.3.3 Nikken-chemical Meso-Erythritol Sales, Revenue, Price and Gross Margin

(2019-2024)

- 8.3.4 Nikken-chemical Meso-Erythritol Product Portfolio
- 8.3.5 Nikken-chemical Recent Developments

8.4 Baolingbao Biology

- 8.4.1 Baolingbao Biology Comapny Information
- 8.4.2 Baolingbao Biology Business Overview
- 8.4.3 Baolingbao Biology Meso-Erythritol Sales, Revenue, Price and Gross Margin (2019-2024)
- 8.4.4 Baolingbao Biology Meso-Erythritol Product Portfolio
- 8.4.5 Baolingbao Biology Recent Developments
- 8.5 Shandong Sanyuan Biotechnology
- 8.5.1 Shandong Sanyuan Biotechnology Comapny Information
- 8.5.2 Shandong Sanyuan Biotechnology Business Overview
- 8.5.3 Shandong Sanyuan Biotechnology Meso-Erythritol Sales, Revenue, Price and Gross Margin (2019-2024)
- 8.5.4 Shandong Sanyuan Biotechnology Meso-Erythritol Product Portfolio
- 8.5.5 Shandong Sanyuan Biotechnology Recent Developments

8.6 Zhongshun Sci. & Tech.

- 8.6.1 Zhongshun Sci. & Tech. Comapny Information
- 8.6.2 Zhongshun Sci. & Tech. Business Overview
- 8.6.3 Zhongshun Sci. & Tech. Meso-Erythritol Sales, Revenue, Price and Gross Margin (2019-2024)
- 8.6.4 Zhongshun Sci. & Tech. Meso-Erythritol Product Portfolio
- 8.6.5 Zhongshun Sci. & Tech. Recent Developments

8.7 Futaste

- 8.7.1 Futaste Comapny Information
- 8.7.2 Futaste Business Overview
- 8.7.3 Futaste Meso-Erythritol Sales, Revenue, Price and Gross Margin (2019-2024)
- 8.7.4 Futaste Meso-Erythritol Product Portfolio
- 8.7.5 Futaste Recent Developments

#### **9 NORTH AMERICA**

9.1 North America Meso-Erythritol Market Size by Type



9.1.1 North America Meso-Erythritol Revenue by Type (2019-2030)

- 9.1.2 North America Meso-Erythritol Sales by Type (2019-2030)
- 9.1.3 North America Meso-Erythritol Price by Type (2019-2030)
- 9.2 North America Meso-Erythritol Market Size by Application

9.2.1 North America Meso-Erythritol Revenue by Application (2019-2030)

9.2.2 North America Meso-Erythritol Sales by Application (2019-2030)

9.2.3 North America Meso-Erythritol Price by Application (2019-2030)

9.3 North America Meso-Erythritol Market Size by Country

9.3.1 North America Meso-Erythritol Revenue Grow Rate by Country (2019 VS 2023 VS 2030)

9.3.2 North America Meso-Erythritol Sales by Country (2019 VS 2023 VS 2030)

- 9.3.3 North America Meso-Erythritol Price by Country (2019-2030)
- 9.3.4 U.S.

9.3.5 Canada

#### **10 EUROPE**

10.1 Europe Meso-Erythritol Market Size by Type

10.1.1 Europe Meso-Erythritol Revenue by Type (2019-2030)

10.1.2 Europe Meso-Erythritol Sales by Type (2019-2030)

10.1.3 Europe Meso-Erythritol Price by Type (2019-2030)

10.2 Europe Meso-Erythritol Market Size by Application

10.2.1 Europe Meso-Erythritol Revenue by Application (2019-2030)

- 10.2.2 Europe Meso-Erythritol Sales by Application (2019-2030)
- 10.2.3 Europe Meso-Erythritol Price by Application (2019-2030)
- 10.3 Europe Meso-Erythritol Market Size by Country

10.3.1 Europe Meso-Erythritol Revenue Grow Rate by Country (2019 VS 2023 VS 2030)

10.3.2 Europe Meso-Erythritol Sales by Country (2019 VS 2023 VS 2030)

10.3.3 Europe Meso-Erythritol Price by Country (2019-2030)

- 10.3.4 Germany
- 10.3.5 France
- 10.3.6 U.K.
- 10.3.7 Italy
- 10.3.8 Russia

#### 11 CHINA

11.1 China Meso-Erythritol Market Size by Type



- 11.1.1 China Meso-Erythritol Revenue by Type (2019-2030)
- 11.1.2 China Meso-Erythritol Sales by Type (2019-2030)
- 11.1.3 China Meso-Erythritol Price by Type (2019-2030)
- 11.2 China Meso-Erythritol Market Size by Application
- 11.2.1 China Meso-Erythritol Revenue by Application (2019-2030)
- 11.2.2 China Meso-Erythritol Sales by Application (2019-2030)
- 11.2.3 China Meso-Erythritol Price by Application (2019-2030)

#### 12 ASIA (EXCLUDING CHINA)

- 12.1 Asia Meso-Erythritol Market Size by Type
- 12.1.1 Asia Meso-Erythritol Revenue by Type (2019-2030)
- 12.1.2 Asia Meso-Erythritol Sales by Type (2019-2030)
- 12.1.3 Asia Meso-Erythritol Price by Type (2019-2030)
- 12.2 Asia Meso-Erythritol Market Size by Application
- 12.2.1 Asia Meso-Erythritol Revenue by Application (2019-2030)
- 12.2.2 Asia Meso-Erythritol Sales by Application (2019-2030)
- 12.2.3 Asia Meso-Erythritol Price by Application (2019-2030)
- 12.3 Asia Meso-Erythritol Market Size by Country
  - 12.3.1 Asia Meso-Erythritol Revenue Grow Rate by Country (2019 VS 2023 VS 2030)
  - 12.3.2 Asia Meso-Erythritol Sales by Country (2019 VS 2023 VS 2030)
  - 12.3.3 Asia Meso-Erythritol Price by Country (2019-2030)
  - 12.3.4 Japan
  - 12.3.5 South Korea
  - 12.3.6 India
  - 12.3.7 Australia
  - 12.3.8 China Taiwan
  - 12.3.9 Southeast Asia

#### 13 MIDDLE EAST, AFRICA AND LATIN AMERICA

13.1 Middle East, Africa and Latin America Meso-Erythritol Market Size by Type 13.1.1 Middle East, Africa and Latin America Meso-Erythritol Revenue by Type (2019-2030)

13.1.2 Middle East, Africa and Latin America Meso-Erythritol Sales by Type (2019-2030)

13.1.3 Middle East, Africa and Latin America Meso-Erythritol Price by Type (2019-2030)

13.2 Middle East, Africa and Latin America Meso-Erythritol Market Size by Application



13.2.1 Middle East, Africa and Latin America Meso-Erythritol Revenue by Application (2019-2030)

13.2.2 Middle East, Africa and Latin America Meso-Erythritol Sales by Application (2019-2030)

13.2.3 Middle East, Africa and Latin America Meso-Erythritol Price by Application (2019-2030)

13.3 Middle East, Africa and Latin America Meso-Erythritol Market Size by Country13.3.1 Middle East, Africa and Latin America Meso-Erythritol Revenue Grow Rate byCountry (2019 VS 2023 VS 2030)

13.3.2 Middle East, Africa and Latin America Meso-Erythritol Sales by Country (2019 VS 2023 VS 2030)

13.3.3 Middle East, Africa and Latin America Meso-Erythritol Price by Country (2019-2030)

- 13.3.4 Mexico
- 13.3.5 Brazil
- 13.3.6 Israel
- 13.3.7 Argentina
- 13.3.8 Colombia
- 13.3.9 Turkey
- 13.3.10 Saudi Arabia
- 13.3.11 UAE

#### 14 VALUE CHAIN AND SALES CHANNELS ANALYSIS

- 14.1 Meso-Erythritol Value Chain Analysis
- 14.1.1 Meso-Erythritol Key Raw Materials
- 14.1.2 Raw Materials Key Suppliers
- 14.1.3 Manufacturing Cost Structure
- 14.1.4 Meso-Erythritol Production Mode & Process
- 14.2 Meso-Erythritol Sales Channels Analysis
- 14.2.1 Direct Comparison with Distribution Share
- 14.2.2 Meso-Erythritol Distributors
- 14.2.3 Meso-Erythritol Customers

#### **15 CONCLUDING INSIGHTS**

#### **16 APPENDIX**

16.1 Reasons for Doing This Study



- 16.2 Research Methodology 16.3 Research Process
- 16.4 Authors List of This Report
- 16.5 Data Source
- 16.5.1 Secondary Sources
- 16.5.2 Primary Sources
- 16.6 Disclaimer



#### I would like to order

Product name: Global Meso-Erythritol Market Analysis and Forecast 2024-2030 Product link: <u>https://marketpublishers.com/r/G423EEB92E9FEN.html</u>

Price: US\$ 4,950.00 (Single User License / Electronic Delivery) If you want to order Corporate License or Hard Copy, please, contact our Customer Service: <u>info@marketpublishers.com</u>

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <u>https://marketpublishers.com/r/G423EEB92E9FEN.html</u>

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

Custumer signature \_\_\_\_\_

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

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