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Argus Caustic soda Analytics – Sample

A global supply/demand analysis for 2018 through 2032

May 2023

Sample



illuminating the markets®

Commodity Markets Intelligence

Consulting & Forecasts

Events

Client Note: Welcome to the Argus Caustic Soda Analytics service. The full service gives you a 10-year forecast and a five-year history covering caustic soda capacities, trade, and supply and demand balances, plus details on demand growth for leading derivatives.

This is a sample of the **Argus Caustic Soda Analytics** service.

The full report and associated datasets are only available to subscribers.

For more information visit view.argusmedia.com/causticsodaanalytics.



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The screenshot shows the Argus direct website interface. At the top, it says 'Argus direct' and 'Welcome, Lauren Williamson'. There are navigation tabs for Home, Markets, Workspaces, Prices & data, News & analysis, Methodology & resources, Publications, and Tools. A search bar contains the word 'caustic'. Below the search bar, it says 'Find content by' and 'You searched for: "caustic" (Data & downloads), 16 results found'. The results are categorized by 'Content types' (Data & downloads (16)), 'Date' (2023 (7), 2022 (8), Older (1)), and 'Sectors' (Chemicals (16), Coal (11), Natural gas (11)). The search results list three items:

- Argus Caustic Soda Analytics 2023 - Capacities**
Argus Caustic Soda Analytics 2023 - Capacities
Published 03 May 23 | Download file
- Argus Caustic Soda Analytics 2023 - Capacities**
Argus Caustic Soda Analytics 2023 - Capacities
Published 02 May 23 | Download file
- Argus Caustic Soda 10 Year Price**
Argus Caustic Soda 10 Year Price
Published 02 May 23 | Download file

Included in your subscription:

- Global supply-demand balances, detailed to a country level.
- Worldwide capacities, by production method.
- 10-year price forecast.

Associated data and analysis

Argus Caustic Soda Analytics Service

- This presentation is based on an update of Argus Caustic Soda Analytics 10-year supply/demand forecast, published in May 2023. The presentation highlights our fundamentals forecast at both a global level and region by region analysis. This annual study delivers a comprehensive overview of global supply and demand fundamentals, trade patterns and balances on a country-by-country basis.
- Argus' consultants analyze the global market for caustic soda and its primary derivatives and link them to primary energy markets worldwide.
- It is a commercially oriented consulting service aiming to provide the most accurate and timely analysis of industry trends and events including supply and demand, cost drivers for caustic soda and its major first-level derivatives.
- Argus also offers a rolling 24-months price forecast ([Argus Chlor-Alkali Outlook](#)) backed by an analysis of future market trends.
- Detailed data downloads of the supply/demand and capacity files are available at these links:
 - [Balance](#)
 - [Capacity](#)
 - [10-year price](#)
- Methodology is available in the Appendix.



Executive Summary			
Spotlight: Battery Materials			
Global capacities, production and demand			
Regional summaries			
North America	Nordic Europe	Middle East	Australasia
Latin America and Caribbean	Central and Eastern Europe	Northeast Asia	
Northwest Europe	Russia and Central Asia	Southeast Asia	
Southern Europe	Africa	South Asia	
Appendix			

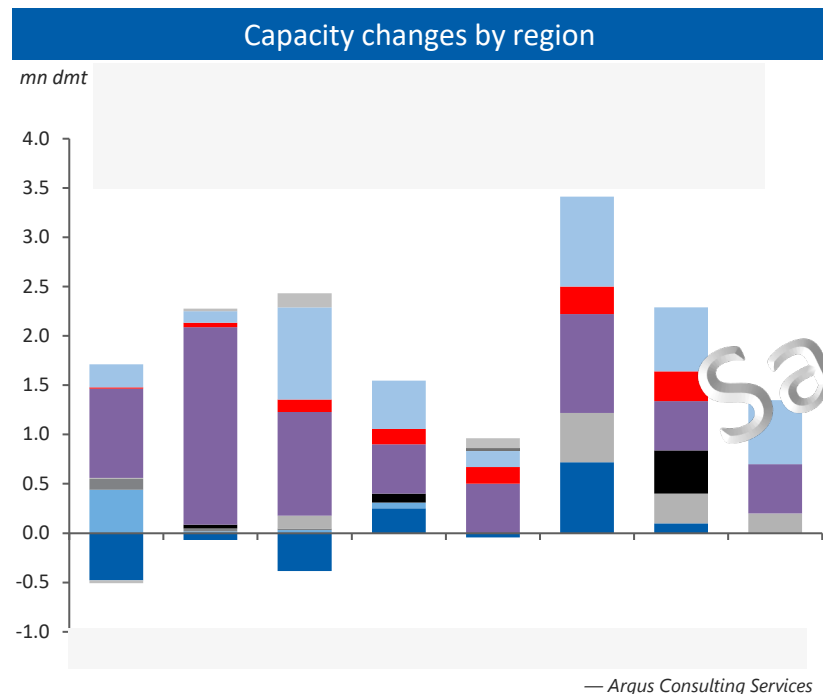
Executive summary

Strong rebound from pandemic and surging energy price led to strong recovery in caustic soda price through early 2020s

- The chlor-alkali industry has been reacting to massive supply disruptions caused not only by the impacts of the COVID-19 lockdowns but also unplanned weather events on the US Gulf coast and an armed conflict in Ukraine.
- The global supply of caustic soda for the last two years has been in short supply as a strong underlying demand has outpaced supply. This situation has begun to reverse as record high caustic soda prices coupled with record high energy prices in Europe at the end of 2022 have destroyed significant amounts of caustic soda demand.
- The supply and demand balance between chlorine and caustic soda continues to ebb and flow with weak demand being experienced on both sides of the molecule well in advance of a slowing economy. The chlor-alkali cycle is forecast to experience its next inflection point towards the end of 2023, with the cycle beginning to show global growth beginning to strengthen in 2024.
- Caustic soda capacity additions are forecast to exceed the global demand profile beginning in 2026, leading to oversupplied conditions for a couple of years as demand overtakes supply, resulting in support for caustic soda price and reinvestment economics being achieved again in the last couple of years of the forecast.
- One of the main drivers of caustic soda demand growth will be the electrification of the auto industry. This will not only lead to a rapid expansion of caustic soda demand into battery materials, but also a number of related industries such as alumina, copper, and to a lesser degree chlorine derivatives such as polyvinyl chloride, polycarbonates, as well as polyvinylidene chloride.

Global capacity changes

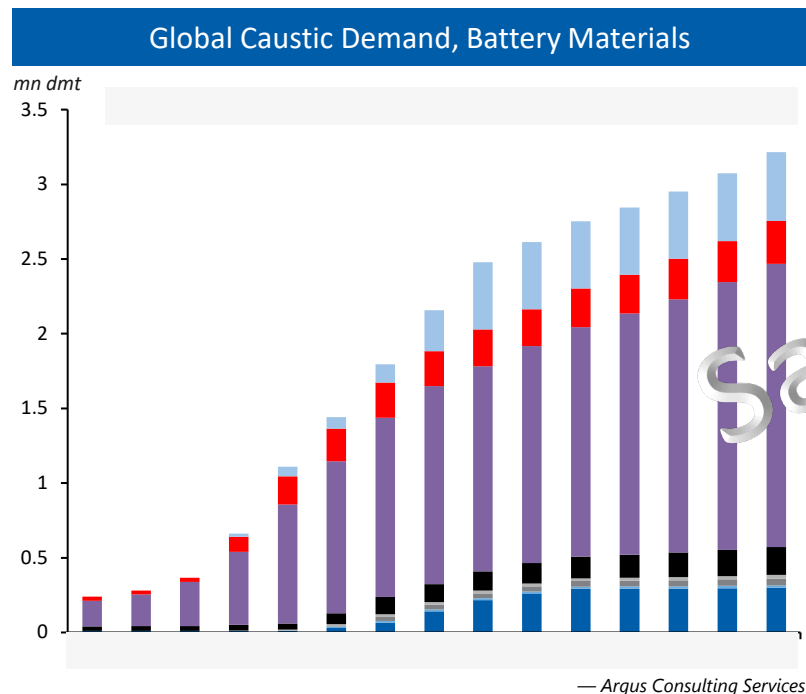
Asia leads capacity expansions



- Northeast Asia, more specifically, China remains the dominant region with capacity additions.
- China has been expanding capacity over the last couple of years in line with Chlor Alkali derivative demand growth. It has long ago abandoned the massive capacity growth additions encountered from 2005-2015.
- India has also been one of the leading countries adding capacity as it attempts to become more self-sufficient in regard to Chlor Alkali production.
- The United States will lead North America capacity additions over the next five years as new capacity will be integrated into vinyls and isocyanates.
- Southeast Asia and the Middle East will see some capacity growth as the regions expand vinyls production.
- Most other regions will have minimal additional capacity as they are higher cash cost regions and not strategically positioned to supply a high growth caustic soda derivative demand.

Spotlight: battery materials

Strong growth driven by the electrification of the automotive sector



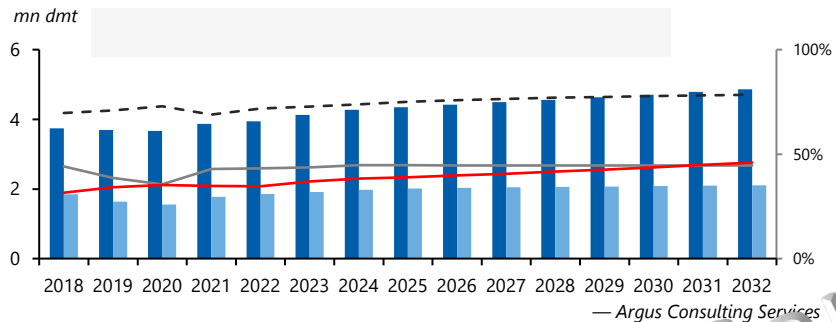
- Caustic soda demand growth over the next decade will be dominated by the rapid expansion of the battery materials segment as global automotive manufacturing shifts away from the internal combustion engine.

- Capital investment into this segment is currently the limiting factor in the forecast of caustic soda uptake into this segment.
- Despite its rapid growth, battery materials will only be the fourth largest growth segment by volume after alumina, pulp and paper and organic chemicals.

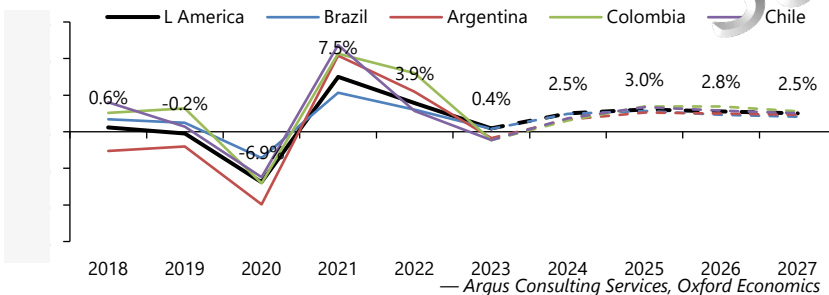
Latin America and Caribbean overview

Caustic soda demand growing faster than GDP

Latin America Summary



Latin America GDP



- Investment in chlor-alkali capacity will be limited to replacing obsolete technologies such as mercury or asbestos with smaller investments into localized water treatment applications.
- Demand is driven by a large increase in pulp and paper production and to a lesser extent the alumina industry.

Central and Eastern Europe key updates

Higher average operating rates than in northwest Europe due to unique chlorine integration

Key Market Changes



Supply

Availability is adequate but is to increase once chlorine demand recovery sets in later this year.

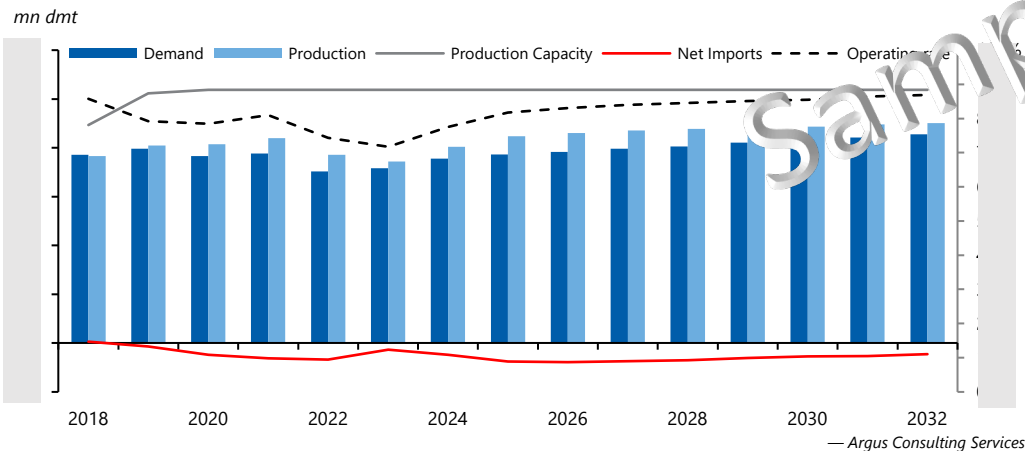


Demand



Trade

Existing trade patterns could persist, meaning that supply flows will be across local borders



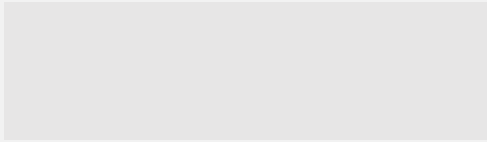
Southeast Asia key updates

World's fastest growing caustic soda market

Key Market Changes



Supply



Demand

Robust demand growth driven by alumina, mineral processing, oleochemical and textile (rayon) industries.



Trade

The region has the world's most active imports, predominantly of northeast Asian origin.

Thailand: Self sufficient market with stable demand growth and diverse downstream industries



Indonesia: The most robust caustic soda market in the region with strong demand growth, especially in the rayon, alumina and mineral processing sectors.

Related reports

Other Argus publications on related markets are available

- Argus Ethylene and Derivatives
- Argus Global Polyvinyl Chloride
- Argus Natural Gas Americas
- Argus European Electricity
- Argus Coal Weekly
- Energy Argus Petroleum Coke
- Argus Pine Chemicals
- Argus Toluene Xylenes and Isomers / PET
- Argus Benzene and Derivatives
- Argus Butadiene
- Argus Methanol
- Argus Global Polyethylene
- Argus Propylene and Derivatives
- Argus C5 and Hydrocarbon Resins
- Argus Ferrous Markets
- Argus Minor Metals
- Argus Non-Ferrous Markets
- Argus Battery Materials
- Argus Potash
- Argus Iron, American Sulphur and Sulphuric Acid
- Argus Dry Freight
- Argus Tanker Freight
- Argus Rail Business
- Argus Net Zero
- Argus Biofuels
- Argus European Emissions Markets
- Argus Hydrogen and Future Fuels



Methodology behind the Global Caustic Soda Analytics

Period presented

The annual period for this study is the historical years 2018 through 2022, and forecast data for 2023 through 2032, inclusive.

Analysis and forecasting

The Analytics service contains detailed information such as capacities, production, demand and trade for most producing and consuming countries in the world. Demand forecasts are based on relationships to derivative and end-use consumption trends and expected country-by-country economic growth projections.

Argus uses data, market opinions and views on market trends to develop the medium-term supply and demand and corresponding price and margin forecasts. When appropriate, *Argus* makes adjustments to published data, for example trade data reported by countries or government-reported statistics.

Although data gathering is essential to understanding the Caustic soda market's history and power for future trends, *Argus* believes the interpretation of this data is the most valuable part of this analysis.

Weights, currencies and percentages

Unless explicitly stated, all weights are given in dry metric tonnes and all references to dollars are to US dollars.

Currency conversions have been made either at a current or relevant financial exchange rate, as required by the context.

Numbers may be rounded. This means that table totals may differ from the sum of the individual figures, and percentages may sometimes appear not to total exactly 100pc.

Your feedback is welcome

Argus thanks our valuable clients and contacts for sharing opinions and expertise during the compilation process. Data verification is the cornerstone of the quality of the analysis, and the input received from global market participants is critical to arriving at logical and realistic conclusions.

It is important that this product meets client's expectations, and we encourage feedback to ensure continuous improvement.

If additional company-specific or more detailed long-term analysis is desired regarding methanol or other petrochemicals, please contact the *Argus* team.



Appendix: Argus Acronyms

- '000t – thousands of tonnes
- ACN – acrylonitrile
- AF – Africa
- AGT – Antwerp gas terminal
- ALC – allyl chloride
- Asean – Association of Southeast Asian Nations
- Aus – Australasia
- BD – butadiene
- BS – Black Sea
- b/d – barrels per day
- Bat. Mat. – Battery Materials
- bl – barrel
- bn – billion
- Btu – British thermal units
- BTX – benzene/toluene/xylenes
- CAGR – cumulative annual growth rate
- CEE – Central and Eastern Europe
- CIS – Commonwealth of Independent States
- CTO – coal to olefins
- DOE – US Department of Energy
- dmt – dry metric tonnes
- EDC – ethylene dichloride
- EPC – engineering, procurement and construction
- EPCC – engineering, procurement, construction and commissioning
- EU – European Union
- EVA – ethyl vinyl acetate
- FCC – fluidized catalytic cracking
- FSU – Former Soviet Union
- ft3 – cubic feet
- GDP – gross domestic product
- GNP – gross national product
- GTL – gas to liquids
- HDPE – high density polyethylene
- IM – injection molding
- IMF – International Monetary Fund
- km - kilometers
- kt – kilo tonnes
- ECB – European Central Bank
- EDC – ethylene dichloride
- EPC – engineering, procurement and construction
- EPCC – engineering, procurement, construction and commissioning
- EU – European Union
- EVA – ethyl vinyl acetate
- FCC – fluidized catalytic cracking
- FSU – Former Soviet Union
- ft3 – cubic feet
- GDP – gross domestic product
- GNP – gross national product
- GTL – gas to liquids
- IMF – International Monetary Fund
- IOC – Inorganic Chemical
- JV – Joint Venture
- km - kilometers
- kt – kilo tonnes
- kdmt – kilo dry metric tonnes



Appendix: Argus Acronyms

- LAC – Latin America and Caribbean
- LLP – limited liability partnership
- LPG – liquefied petroleum gas
- LT – long-term
- MDH – mixed feed dehydrogenation
- ME – Middle East
- MEG – mono-ethylene glycol
- MERS – Middle East Respiratory Syndrome
- mmBtu – million British thermal units
- mn – million
- mn b/d – million barrels per day
- mn Btu – million British thermal units
- mn lb – million pounds
- mn t – million tonnes
- mn dmt – million dry metric tonnes
- MoU – memorandum of understanding
- MTO – methanol to olefins
- NAM – North America
- NEA – Northeast Asia
- NE – Nordic Europe
- NWE – Northwest Europe
- OC- Organic Chemical
- pc – percent
- P&P- Pulp and Paper
- PE – Polyethylene
- Petrochem Appl. – Petrochemical Applications
- PO – propylene oxide
- PP – polypropylene
- PP CO – polypropylene comonomer
- PPM – parts per million
- PRO – propanaldehyde
- PVC – polyvinyl chloride
- RCA – Russia and Central Asia
- SA – South Asia
- S&D – Soap and Detergent
- SEA – Southeast Asia
- SEA – Southern Europe
- SEZ – special economic zone
- t – tonnes
- t/yr – tonnes per year
- UAE – United Arab Emirates
- UN – United Nations
- US – United States
- USGC – United States Gulf Coast
- VCM – Vinyl Chloride Monomer
- WE – Western Europe
- WTO – World Trade Organization



Argus Caustic Soda experts



George Eisenhauer
Chlor Alkali
Editor

Holding a BSc in Chemical Engineering from University of Texas and an MBA from Rice University, George brings a wealth of in-industry experience to Argus. Before joining Argus in 2012, he was director Chlor-Alkali for IHS. He also held roles in acquisition and asset management as well as operations control and strategic objectives for Air Liquide. George's past experience also includes roles at FMC Technologies, Dow Chemical and Union Carbide.



Stephanie Koenig
Head of European
Chlor-alkali

Stephanie joined Argus Media in 2017 as part of the team setting up the chlor-alkali business. After a period of strong growth she is now overseeing contents and analytical standards across the European operations, spanning from editorial, to outlooks, analytics and events. She also contributes to single client consulting projects and has over 15 years' experience directly related to the chlor-alkali industry. Prior to joining Argus Media, she spent time at IHS Chemical, leading the global Bleaching Chemicals Service and contributing to chlor-alkali products. Stephanie has a Master's Degree in Business Administration from the University of Leipzig, Germany.



Bernard Law
Chlor-Alkali Editor

Bernard has more than 25 years' experience in the chemical industry in Asia. Prior to joining Argus, he worked as principal analyst for Hariman Chemsult since 2004, and subsequently with IHS when the two companies merged. He generated benchmarking pricing and assessments, including Northeast Asia and Southeast Asia caustics to alumina indexes. Before that, he spent 13 years working for speciality and commodity chemicals in the Asia- Pacific region. Bernard graduated with a BSc from the University of Malaya, majoring in Mathematics and Chemistry.



Dhanish Kalayarasu
Deputy Analyst
Manager

Dhanish has an undergraduate degree in chemical engineering and a MSc in Finance Analytics. His experience includes roles working in power generation, project management, agriculture and analytics. He also spent time at an edible oil refinery in operations and managing projects with high pressure biomass boilers, steam turbines, water treatment, and fuel management.



Anshu Pandey
Business Analyst

Anshu joined Argus in 2022 and is a Business Analyst for chemicals. She contributes to supply and demand analytics for Argus Butadiene, Argus Hydrocarbon Resins and Argus Chlor-Alkali services. Before Argus, she worked on projects related to water treatment, environmental assessment of fuels and hydrogen transportation. She hold a masters in Chemical Engineering.



Argus Caustic Soda Analytics – Sample

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